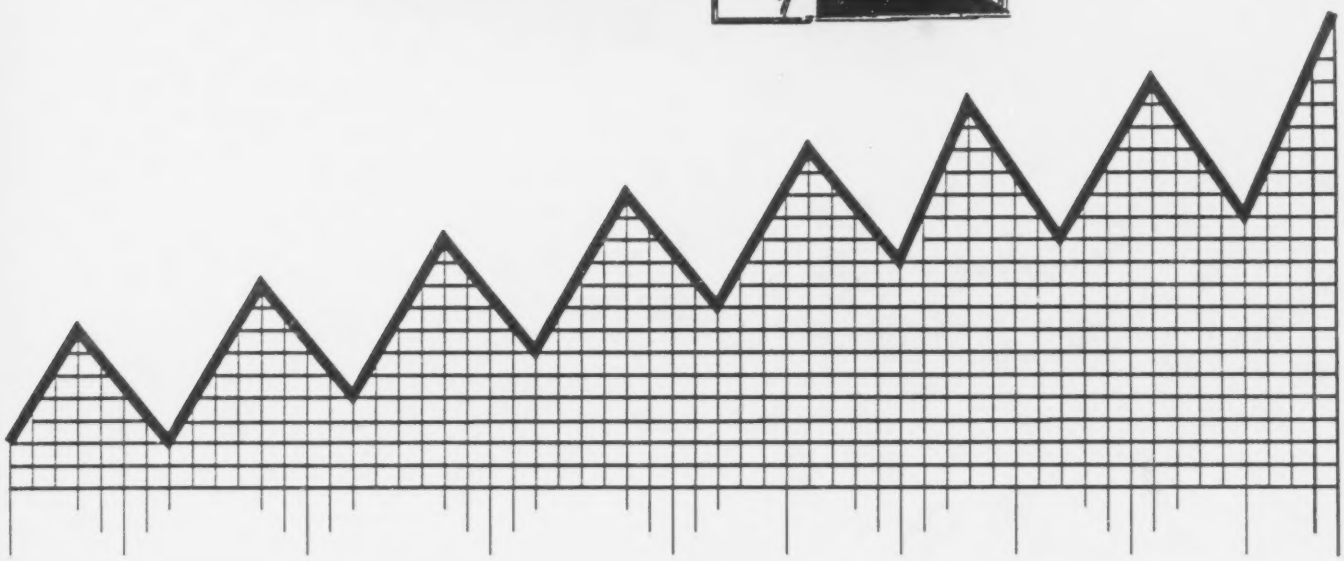
S5925-6.13-U

Occupational Employment in Manufacturing and Hospitals North Carolina 1989



Employment Security Commission of North Carolina

Occupational Employment in Selected Manufacturing Industries and Hospitals in North Carolina 1989

Table of Contents

INTRODUCTION		1
Food and Kindred Products (SIC 20)		2
Table 1	The Five Largest Specific Occupations	6
Figure 1	Percent Distribution of Employment by Major Occupational Category	6
Tobacco Products (SIC 21)		7
Table 2	The Five Largest Specific Occupations	10
Figure 2	Percent Distribution of Employment by Major Occupational Category	10
Textile Mill Products, Apparel, and Other Finished Products Made from Fabrics (SIC 22 and 23)		11
Table 3	The Five Largest Specific Occupations	15
Figure 3	Percent Distribution of Employment by Major Occupational Category	15
Lumber and Wood Products, Except Furniture (SIC 24)		16
Table 4	The Five Largest Specific Occupations	19
Figure 4	Percent Distribution of Employment by Major Occupational Category	19
Paper and Allied Products (SIC 26)		20
Table 5	The Five Largest Specific Occupations	24
Figure 5	Percent Distribution of Employment by Major Occupational Category	24
Printing, Publishing, and Allied Industries (SIC 27, except 279)		25
Table 6	The Five Largest Specific Occupations	28
Figure 6	Percent Distribution of Employment by Major Occupational Category	28
Chemicals and Allied Products (SIC 28, except 281, and 287)		29
Table 7	The Five Largest Specific Occupations	33
Figure 7	Percent Distribution of Employment by Major Occupational Category	33
Rubber and Miscellaneous Plastics Products (SIC 30)		34
Table 8	The Five Largest Specific Occupations	37
Figure 8	Percent Distribution of Employment by Major Occupational Category	37
Leather and Leather Products (SIC 31)		38
Table 9	The Five Largest Specific Occupations	40
Figure 9	Percent Distribution of Employment by Major Occupational Category	40

Stone, Clay, Glass, and Concrete Products (SIC 32, except 324) 41
Table 10 The Five Largest Specific Occupations 44
Figure 10 Percent Distribution of Employment by Major Occupational Category 44

Primary Metals Industries (SIC 33, except 333 and 335) 45
Table 11 The Five Largest Specific Occupations 47
Figure 11 Percent Distribution of Employment by Major Occupational Category 47

Fabricated Metal Products, Except Machinery and Transportation Equipment (SIC 34, except 343 and 346) 48
Table 12 The Five Largest Specific Occupations 52
Figure 12 Percent Distribution of Employment by Major Occupational Category 52

Industrial and Commercial Machinery and Computer Equipment (SIC 35) 53
Table 13 The Five Largest Specific Occupations 57
Figure 13 Percent Distribution of Employment by Major Occupational Category 57

Electronic and Other Electrical Equipment and Components, Except Computer Equipment (SIC 36, except 365) 58
Table 14 The Five Largest Specific Occupations 62
Figure 14 Percent Distribution of Employment by Major Occupational Category 62

Transportation Equipment (SIC 37) 63
Table 15 The Five Largest Specific Occupations 66
Figure 15 Percent Distribution of Employment by Major Occupational Category 66

Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks (SIC 38) 67
Table 16 The Five Largest Specific Occupations 70
Figure 16 Percent Distribution of Employment by Major Occupational Category 70

Miscellaneous Manufacturing Industries (SIC 39) 71
Table 16 The Five Largest Specific Occupations 73
Figure 16 Percent Distribution of Employment by Major Occupational Category 73

Hospitals (SIC 806) 74
Table 17 The Five Largest Specific Occupations 78
Figure 17 Percent Distribution of Employment by Major Occupational Category 78

Methodology 79

Acknowledgements

This publication is produced through a Federal-State cooperative program with funding, technical assistance, and general oversight provided by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). Ms. Diane Zimmerman and Ms. Laura Jackson of the Atlanta Regional BLS office offered timely advice and direction throughout its preparation.

Data collection, coding, editing, and printing of this report were performed by staff of the Labor Market Information Division of the Employment Security Commission of North Carolina: Sam Brewer; Yvonne Ennis; and Leonard Polk, Unit Supervisor. Computer services were provided by Mr. David Stowe of the agency's Data Processing Department.

A special thanks is extended to each of the more than 3,800 employers whose survey responses provided the occupational information on which this report was developed. We also thank the North Carolina Department of Administration for providing summary data for state government employment.

Introduction

The Occupational Employment Statistics (OES) program is a cooperative effort of the Bureau of Labor Statistics and the nation's State Employment Security Agencies. In North Carolina, the Labor Market Information Division bears the responsibility for the collection, analysis, and distribition of information relating to the occupational staffing patterns of the state's industries. Industries are surveyed on a three-year rotating cycle to increase the cost effectiveness of the data collection and to reduce the reporting burden of employers who are asked to participate in the study. Research done by the Bureau of Labor Statistics has indicated that staffing patterns tend to remain relatively static, and therefore useful, over this time span. The project looks at only nonagricultural wage and salary employment. Data for self-employment, agriculture, and unpaid family members are not included. The three survey rounds are defined as follows:

Manufacturing and Hospitals

Nonmanufacturing Industries

Selected Nonmanufacturing Industries

When viewed together, the results of these three survey rounds give a clear and accurate picture of occupations and industries in North Carolina which may be utilized by educators, counselors, and planners in a number of ways including, but not limited to the following:

Curriculum and Training Applications
- for assessment of current and future occupational needs
- for planning study curricula and development of training programs in accordance with changing job requirements.

Career and Job Counseling
- for guidance of students, trainees, and job seekers in career, or job selection
- for background in applicant referrals to industries and locations where specific skills are needed

Industry and Business Administration
- for improvement of worker selection by more equitably matching job training with occupational needs
- for policy formulation and planning in terms of present and anticipated occupational patterns
- for increased cooperation between industry and educational planners in determining needed program emphasis to meet the needs of a changing work force

This is the seventh report in the OES series based on a survey of covered manufacturing establishments as defined in the 1987 edition of the Standard Industrial Classification Manual (SIC).

In 1989, there were 867,800 persons employed in manufacturing industries and 58,800 in hospitals in North Carolina. This represents 30% of all nonagricultural wage and salary employment in the state, compared to the 30.6% shown by the1986 survey.

SIC 20

FOOD AND KINDRED PRODUCTS

JUNE 1989

This major group includes establishments for manufacturing or processing foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	51,410	NA	100.0
Managers and Officers	2,300	NA	4.5
Financial Managers	150	6.5	0.3
Personnel and Labor Relations Managers	120	7.1	0.2
Purchasing Managers	70	12.3	0.1
Marketing, Advertising, and Public Relations Managers	240	17.6	0.5
Administrative Service Managers	40	24.3	0.1
Engineering, Mathematical, and Natural Science Managers	80	10.9	0.2
Industrial Production Managers	520	13.5	1.0
General Managers and Top Executives	830	9.6	1.6
Other Managers and Administrators	250	NA	0.5
Professional and Technical Workers	1,170	NA	2.3
Accountants and Auditors	160	12.5	0.3
Other Financial Specialists	70	NA	0.1
Purchasing Agents and Buyers, Farm Products	60	20.8	0.1
Purchasing Agents and Buyers, except Farm Products	40	32.2	0.1
Personnel and Labor Relations Specialists	60	6.7	0.1
Other Management Support Workers	110	NA	0.2
Industrial Engineers, except Safety	40	8.1	0.1
Mechanical Engineers	70	17.1	0.1
Other Engineers	40	NA	0.1
Other Engineering Technicians and Technologists	60	NA	0.1
Other Physical Scientists	50	NA	0.1
Biological, Agricultural, and Food Technicians and Technologists, except Health	70	19.6	0.1
Chemical Technicians and Technologists, except Health	70	26.9	0.1
System Analysts, EDP	60	19.2	0.1
Computer Programmers	80	26.2	0.2
Other Computer Scientists	30	NA	0.1
Health Practitioners, Technicians and Technologists	50	11.3	0.1
Other Professional and Technical Workers	50	NA	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Sales Workers	2,510	NA	4.9
Sales Supervisors	480	20.3	0.9
Sales Representatives, Scientific, except Retail	1,070	22.3	2.1
Salespersons, Retail	580	33.4	1.1
Other Sales and Related Workers	380	NA	0.7
Clerical Workers	3,520	NA	6.8
Clerical and Administrative Supervisors	220	15.8	0.4
Adjustment Clerks	110	40.7	0.2
Secretaries	420	8.4	0.8
Receptionists and Information Clerks	60	13.5	0.1
Typists	90	18.0	0.2
Typist, Word Processing Equipment	30	21.5	0.1
Personnel Clerks	80	7.7	0.1
Order Clerks	50	19.1	0.1
Procurement Clerks	30	15.8	0.1
Bookkeeping, Accounting, and Auditing Clerks	540	14.4	1.1
Payroll and Timekeeping Clerks	100	7.4	0.2
Billing, Cost, and Rate Clerks	60	11.0	0.1
General Office Clerks	420	15.7	0.8
Billing, Posting, and Calculating Machine Operators	40	25.0	0.1
Computer Operators	80	13.4	0.2
Data Entry Keyers	130	12.8	0.2
Switchboard Operators	50	10.2	0.1
Production, Planning, and Expediting Clerks	80	14.8	0.2
Weighers, Measurers, Checkers, and Samplers	140	18.7	0.3
Stock Clerks, Stockroom or Warehouse	180	13.4	0.4
Traffic, Shipping, and Receiving Clerks	500	23.9	1.0
Other Material Recording and Related Workers	40	NA	0.1
Other Clerical and Administrative Workers	70	NA	0.1
Service Workers	2,220	NA	4.3
Service Supervisors	130	20.1	0.3
Guards and Watch Guards	130	14.2	0.3
Janitors and Cleaners	920	13.2	1.8
Other Cleaning and Building Service Workers	80	NA	0.2
Other Service Workers	960	NA	1.9
Agricultural, Forestry, or Fishery Workers	500	NA	1.0
Supervisors	100	17.9	0.2
Graders and Sorters, Agricultural Products	220	17.6	0.4
Other Agricultural, Forestry, or Fishery Workers	180	NA	0.3

SIC 20

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Production and Maintenance Workers	39,170	NA	76.2
Mechanic, Installers, and Repairer Supervisors	160	17.7	0.3
Production Supervisors	1,070	9.8	2.1
Transportation and Material Moving Supervisors	100	22.9	0.2
Labor Supervisors	190	25.2	0.4
Other Supervisors	200	NA	0.4
Precision Inspectors, Testers, and Graders	100	29.6	0.2
Production Inspectors, Testers, and Graders	630	13.8	1.2
Machinery Maintenance Mechanics	820	11.7	1.6
Machinery Maintenance Workers	100	16.1	0.2
Maintenance Repairers, General Utility	750	13.5	1.5
Automotive Mechanics	120	13.9	0.2
Bus, Truck and Diesel Mechanics	270	21.0	0.5
Heating, Air Conditioning, and Refrigeration Mechanics	50	12.4	0.1
Precision Instruments Repairers	30	11.5	0.1
Coin and Vending Machine Servicers and Repairers	220	16.2	0.4
Other Mechanics, Installers, and Repairers	80	NA	1.6
Carpenters	60	31.1	0.1
Electricians	120	6.7	0.2
Slaughterers and Butchers	1,410	24.4	2.7
Other Precision Food and Tobacco Workers	1,660	NA	3.2
Other Precision Workers	80	NA	0.2
Cooking Machine Operators and Tenders	470	21.3	0.9
Cooling and Freezing Equipment Operators and Tenders	180	28.0	0.3
Dairy Processing Equipment Setters and Set-up Operators	350	18.0	0.7
Cutting and Slicing Machine Operators and Tenders	210	30.1	0.4
Cleaning, Washing, and Pickling Equipment Operators and Tenders	200	9.8	0.4
Separating and Filtering Machine Operators and Tenders	70	24.2	0.1
Crushing, Grinding, and Mixing Machine Operators and Tenders	510	13.2	1.0
Packaging and Filling Machine Operators and Tenders	3,530	16.3	6.9
Other Machine Setters and Set-up Operators	110	NA	0.2
Other Machine Operators and Tenders	970	NA	1.9
Cannery Workers	590	7.9	1.2
Meat, Poultry, and Fish Cutters, Hand	11,250	7.1	21.9
Other Hand Workers	1,210	NA	2.4
Other Plant and System Operators	80	NA	0.2
Truck Drivers, Heavy - inc. Tractor Trailer	1,560	10.1	3.0

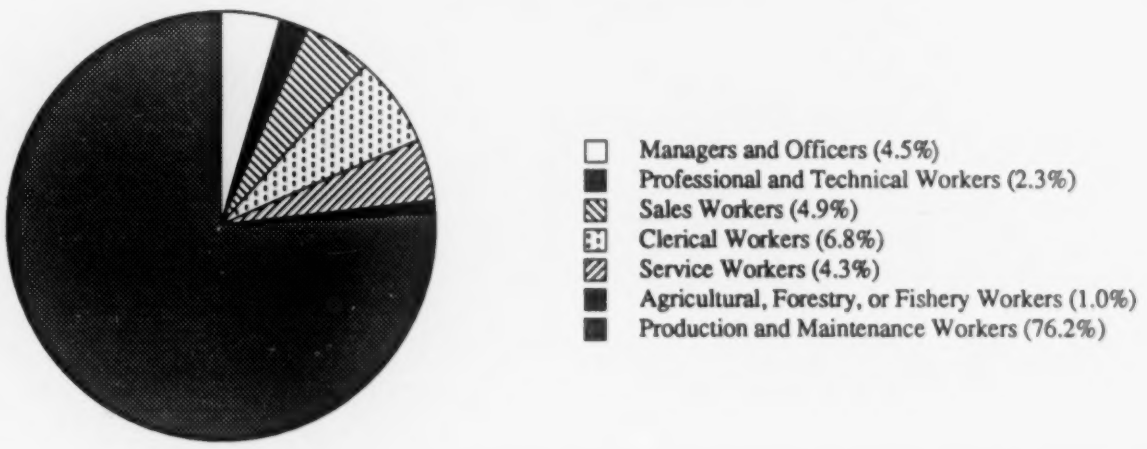
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Truck Drivers, Light - inc. Delivery and Route Workers	340	20.2	0.7
Driver/Sales Workers	2,430	19.6	4.7
Other Transportation Workers	150	NA	0.3
Industrial Truck and Tractor Operators	640	9.5	1.2
Conveyor Operators and Tenders	80	22.3	0.1
Other Material Moving Equipment Operators	60	NA	0.1
Mechanic and Repairer Helpers	70	23.2	0.1
Machine Feeders and Offbearers	160	20.1	0.3
Material Movers, Hand	920	8.8	1.8
Hand Packers and Packagers	1,380	15.9	2.7
Vehicle Washers and Equipment Cleaners	120	32.1	0.2
Other Helpers, Laborers, and Material Movers, Hand	3,310	NA	6.4

[1/]Details may not add to total due to rounding or data suppression.

TABLE 1
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Meat, Poultry, and Fish Cutters, Hand	11,250	21.9
Packaging and Filling Machine Operators and Tenders	3,530	6.9
Drivers/Sales Workers	2,430	4.7
Truck Drivers, Heavy - inc. Tractor Trailer	1,560	3.0
Slaughterers and Butchers	1,410	2.7

FIGURE 1
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (4.5%)
Professional and Technical Workers (2.3%)
Sales Workers (4.9%)
Clerical Workers (6.8%)
Service Workers (4.3%)
Agricultural, Forestry, or Fishery Workers (1.0%)
Production and Maintenance Workers (76.2%)

SIC 21 TOBACCO PRODUCTS

June 1989

Establishments in this major group are involved in the manufacture of cigarettes, cigars, smoking and chewing tobacco, and snuff. The stemming and redrying of tobacco are included in this category.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	20,730	NA	100.0
Managers and Officers	970	NA	4.7
Financial Managers	60	1.6	0.3
Personnel and Labor Relations Managers	40	0.0	0.2
Purchasing Managers	20	7.2	0.1
Marketing, Advertising, and Public Relations Managers	100	0.0	0.5
Engineering, Mathematical, and Natural Science Managers	190	0.0	0.9
Industrial Production Managers	140	2.4	0.7
General Managers and Top Executives	210	1.6	1.0
Other Managers and Administrators	210	NA	1.0
Professional and Technical Workers	2,460	NA	11.9
Accountants and Auditors	20	0.0	0.1
Other Financial Specialists	110	NA	0.5
Purchasing Agents and Buyers, Farm Products	120	0.0	0.6
Purchasing Agents and Buyers, except Farm Products	140	6.9	0.7
Personnel and Labor Relations Specialists	80	0.0	0.4
Other Management Support Workers	330	NA	1.9
Industrial Engineers, except Safety	20	0.0	0.1
Mechanical Engineers	230	0.4	1.1
Other Engineers	200	NA	0.9
Other Engineering Technicians and Technologists	230	NA	1.1
Chemical Technicians and Technologists, except Health	150	0.0	0.7
Other Physical and Life Science Technicians and Technologists	410	NA	2.0
Systems Analysts, EDP	240	0.0	1.1
Computer Programmers	30	0.0	0.1
Health Practitioners, Technicians and Technologists	50	0.0	0.2
Other Professional and Technical Workers	100	NA	0.5
Sales Workers	2,130	NA	10.3
Clerical Workers	1,460	NA	7.0
Clerical and Administrative Supervisors	60	0.0	0.3
Secretaries	420	0.7	2.0

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Personnel Clerks	20	0.0	0.1
Bookkeeping, Accounting, and Auditing Clerks	170	1.3	1.0
Payroll and Timekeeping Clerks	30	3.6	0.1
General Office Clerks	190	0.7	0.9
Computer Operators	60	1.7	0.3
Data Entry Keyers	20	6.4	0.1
Other Office Machine Operators	30	NA	0.1
Switchboard Operators	20	0.0	0.1
Weighers, Measurers, Checkers, and Samplers	30	24.3	0.1
Stock Clerks, Stockroom or Warehouse	70	6.3	0.3
Traffic, Shipping, and Receiving Clerks	40	6.4	0.2
Other Clerical and Administrative Workers	300	NA	1.4
Service Workers	310	NA	1.5
Guards and Watch Guards	90	5.7	0.4
Janitors and Cleaners	160	2.3	0.8
Other Service Workers	60	NA	0.3
Agricultural, Forestry, or Fishery Workers	90	NA	0.4
Graders and Sorters, Agricultural Products	90	3.3	0.4
Production and Maintenance Workers	13,320	NA	64.2
Mechanic and Repairer Supervisors	180	3.1	0.8
Production Supervisors	560	2.7	2.7
Transportation and Material Moving Supervisors	20	0.0	0.1
Laborer Supervisors	120	0.8	0.6
Production Inspectors	400	0.3	1.6
Machinery Maintenance Mechanics	1,910	0.9	9.2
Millwrights	100	0.0	0.5
Machinery Maintenance Workers	50	8.5	0.2
Maintenance Repairers, General Utility	90	10.7	0.4
Automotive Mechanics	20	4.8	0.1
Heating, Air Conditioning, and Refrigeration Mechanics	40	0.0	0.2
Other Mechanics, Installers, and Repairers	360	NA	1.7
Electricians	130	0.0	0.6
Plumbers and Pipefitters	60	0.0	0.3
Other Construction and Extractive Workers	50	NA	0.3
Machinists	160	0.0	0.8
Sheet Metal Workers	40	0.0	0.2
Other Precision Food and Tobacco Workers	180	NA	0.9
Cooking Machine Operators and Tenders, Food and Tobacco	20	0.0	0.1
Roasting and Related Machine Operators and Tenders	310	2.3	1.5
Boiler Operators and Tenders	20	5.6	0.1

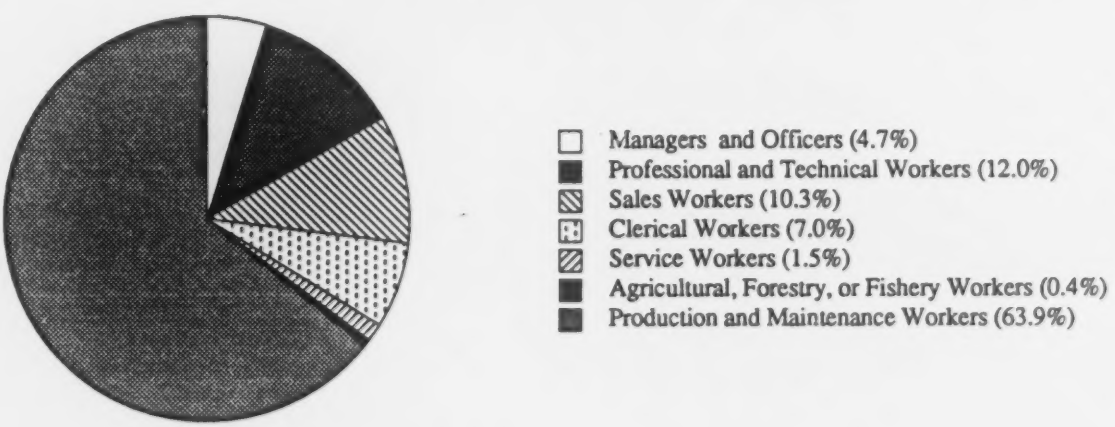
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Cutting and Slicing Machine Operators and Tenders	30	0.0	0.2
Packaging and Filling Machine Operators and Tenders	1,470	0.0	7.1
Other Machine Operators and Tenders	3,340	NA	16.1
Truck Drivers, Heavy - inc. Tractor Trailer	120	0.8	0.6
Truck Drivers, Light - inc. Delivery and Route Workers	50	0.0	0.2
Industrial Truck and Tractor Operators	730	1.7	3.5
Other Material Moving Equipment	40	NA	0.2
Machine Feeders and Offbearers	90	4.9	0.4
Material Movers, Hand	110	11.9	0.5
Other Helpers, Laborers, and Material Movers, Hand	2,520	NA	12.2

[1/]Details may not add to total due to rounding or data suppression.

TABLE 2
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Machinery Maintenance Mechanics	1,910	9.2
Packaging and Filling Machine Operators and Tenders	1,470	7.1
Industrial Truck and Tractor Operators	730	3.5
Production Supervisors	560	2.7
Secretaries	420	2.0

FIGURE 2
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (4.7%)
Professional and Technical Workers (12.0%)
Sales Workers (10.3%)
Clerical Workers (7.0%)
Service Workers (1.5%)
Agricultural, Forestry, or Fishery Workers (0.4%)
Production and Maintenance Workers (63.9%)

SIC 22 and 23

TEXTILE MILL PRODUCTS, APPAREL, AND OTHER FINISHED PRODUCTS MADE FROM FABRICS

April 1989

Major group 22 includes establishments engaged in performing any of the following operations: (1) preparing fiber and manufacturing of yarn, thread, braids, twine, and cordage; (2) manufacturing broad and narrow woven fabric, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabrics, and knit apparel; (4) coating, waterproofing, or otherwise treating fabric; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt and lace goods, nonwoven fabrics, and miscellaneous textiles. This classification includes contract mills (processes materials owned by others) and integrated mills (buys raw materials, manufactures, and sells finished textile goods).

Major group 23 includes those establishments primarily engaged in producing clothing and fabricating products by cutting, and sewing purchased woven, or knot textile fabrics. Other material used in clothing production such as leather, rubber, plastics, and furs are included in this group.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	305,340	NA	100.0
Managers and Officers	8,870	NA	2.9
Financial Managers	610	10.1	0.2
Personnel and Labor Relations Managers	600	6.1	0.2
Purchasing Managers	240	7.5	0.1
Marketing, Advertising, and Public Relations Managers	380	10.6	0.1
Administrative Service Managers	240	11.9	0.1
Engineering, Mathematical, and Natural Science Managers	370	12.5	0.1
Industrial Production Managers	2,010	6.2	0.7
General Managers and Top Executives	3,130	5.5	1.0
Other Managers and Administrators	1,290	NA	0.4
Professional and Technical Workers	6,790	NA	2.2
Accountants and Auditors	580	11.3	0.2
Other Financial Specialists	200	NA	0.1
Purchasing Agents and Buyers, except Farm Products	330	8.2	0.1
Personnel and Labor Relations Specialists	470	6.8	0.2
Cost Estimators	180	12.3	0.1
Other Management Support Workers	360	NA	0.1
Industrial Engineers, except Safety	730	4.5	0.2
Mechanical Engineers	300	6.6	0.1
Industrial Engineering Technicians and Technologists	540	8.8	0.2
Other Engineering Technicians and Technologists	380	NA	0.1
Chemists	160	11.9	0.1
Chemical Technicians and Technologists	420	10.0	0.1
Systems Analysts, EDP	450	19.8	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Computer Programmers	340	8.1	0.1
Computer Programmer Aides	160	13.7	0.1
Teachers and Instructors, Vocational Education	450	12.5	0.1
Health Practitioners, Technicians and Technologists	240	5.7	0.1
Designers	250	23.5	0.1
Other Professional and Technical Workers	250	NA	0.1
Sales Workers	2,130	NA	0.7
Sales Supervisors	410	15.4	0.1
Sales Representatives, Nonscientific, except Retail	1,100	11.7	0.4
Salesperson, Retail	410	21.7	0.1
Other Sales and Related Workers	210	NA	0.1
Clerical Workers	22,890	NA	7.5
Clerical and Administrative Supervisors	1,060	7.3	0.3
Adjustment Clerks	770	9.2	0.3
Secretaries	2,180	7.6	0.7
Receptionists and Information Clerks	400	10.8	0.1
Typists	380	12.8	0.1
Personnel Clerks	650	4.9	0.2
Order Clerks	940	12.9	0.3
Procurement Clerks	200	7.5	0.1
Bookkeeping, Accounting, and Auditing Clerks	1,270	6.6	0.4
Payroll and Timekeeping Clerks	1,150	5.6	0.4
Billing, Cost, and Rate Clerks	680	7.1	0.2
General Office Clerks	2,410	6.7	0.8
Computer Operators	530	8.5	0.2
Data Entry Keyers	830	5.8	0.3
Other Office Machine Operators	200	NA	0.1
Switchboard Operators	340	9.0	0.1
Production, Planning, and Expediting Clerks	2,050	5.7	0.7
Weighers, Measurers, Checkers, and Samplers	780	11.3	0.3
Marking Clerks	220	25.7	0.1
Stock Clerks, Stockroom or Warehouse	1,330	6.0	0.4
Traffic, Shipping, and Receiving Clerks	3,370	6.6	1.1
Other Material Recording and Related Workers	460	NA	0.2
Other Clerical and Administrative Workers	690	NA	0.2
Service Workers	4,080	NA	1.3
Service Supervisors	410	17.3	0.1
Guards and Watch Guards	600	8.3	0.2
Janitors and Cleaners	2,780	4.9	0.9
Other Cleaning and Building Service Workers	290	NA	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Production and Maintenance Workers	260,610	NA	85.3
Mechanic and Repairer Supervisors	960	9.4	0.3
Production Supervisors	8,890	3.1	3.0
Transportation and Material Moving Supervisors	420	13.5	0.1
Laborer Supervisors	660	13.2	0.2
Other Supervisors	420	NA	0.1
Precision Inspectors, Testers, and Graders	1,790	18.5	0.6
Production Inspectors	14,060	4.6	4.6
Machinery Maintenance Mechanics, Textile Machines	7,280	9.0	2.4
Machinery Maintenance Mechanics, Sewing Machines	1,400	4.3	0.5
Other Machinery Maintenance Mechanics	1,440	NA	0.5
Millwrights	310	15.5	0.1
Machinery Maintenance Workers	850	7.6	0.3
Maintenance Repairers, General Utility	2,620	14.7	0.9
Heating, Air Conditioning, and Refrigeration Mechanics	530	6.7	0.2
Menders	1,140	12.7	0.4
Other Mechanics, Installers, and Repairers	420	NA	0.1
Carpenters	240	7.1	0.1
Electricians	1,000	5.5	0.3
Other Construction and Extractive Workers	330	NA	0.1
Machinists	380	10.7	0.1
Other Precision Metal Workers	180	NA	0.1
Fabric and Apparel Patternmakers	760	15.6	0.2
Custom Tailors and Sewers	380	31.3	0.1
Precision Dyers	590	16.9	0.2
Other Precision Textile and Apparel Workers	760	NA	0.3
Other Precision Workers	170	NA	0.1
Screen Printing Machine Setters and Set-up Operators	1,070	27.9	0.4
Other Printing Setters and Set-up Operators	300	NA	0.1
Printing Press Machine Operators	330	28.0	0.1
Other Printing and Related Machine Operators and Tenders	330	NA	0.1
Textile Machine Setters and Set-up Operators	9,330	4.3	3.1
Textile Machine Operators and Tenders	58,870	3.2	19.3
Textile Draw-Out Machine Operators and Tenders	4,180	8.5	1.4
Textile Bleaching and Dyeing Machine Operators and Tenders	9,700	9.5	3.2
Sewing Machine Operators, Garment	53,340	3.5	17.5
Sewing Machine Operators, Non-Garment	11,640	8.1	3.8

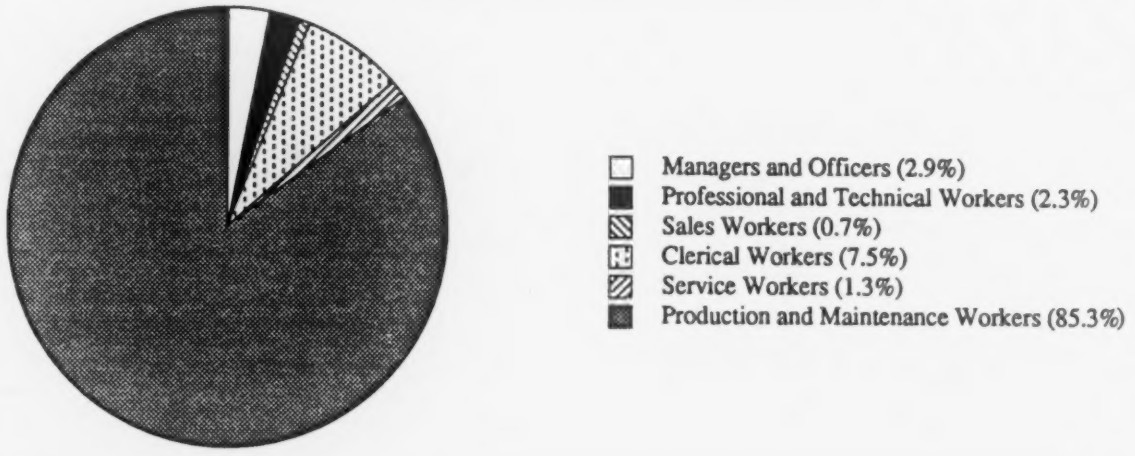
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Pressing Machine Operators and Tenders	2,360	12.5	0.8
Furnace, Kiln, and Oven Operators and Tenders	500	17.0	0.2
Low Pressure Boiler Operators and Tenders	260	11.2	0.1
Cutting and Slicing Machine Setters and Set-up Operators	480	24.1	0.2
Cutting and Slicing Machine Operators and Tenders	270	26.1	0.1
Crushing, Grinding, Mixing, and Blending Machine Operators and Tenders	230	15.5	0.1
Extruding, Forming, Pressing, and Compacting Machine Operators and Tenders	240	29.1	0.1
Packaging and Filling Machine Operators and Tenders	1,940	19.4	0.6
Other Machine Setters and Set-up Operators	1,080	NA	0.3
Other Machine Operators and Tenders	4,610	NA	1.2
Pressers, Hand	840	34.6	0.3
Cutters and Trimmers, Hand	1,720	15.6	0.6
Portable Machine Cutters	950	13.2	0.3
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	820	25.1	0.3
Other Hand Workers	7,760	NA	2.5
Truck Drivers, Heavy - inc. Tractor Trailer	700	7.3	0.2
Truck Drivers, Light - inc. Delivery and Route Workers	480	11.9	0.2
Industrial Truck and Tractors Operators	2,950	7.0	1.0
Conveyor Operators and Tenders	450	21.4	0.1
Other Material Moving Equipment Operators	320	NA	0.1
Mechanic and Repairer Helpers	1,240	15.1	0.4
Machine Feeders and Offbearers	4,460	9.8	1.5
Material Movers, Hand	8,600	4.8	2.8
Hand Packers and Packagers	8,600	9.7	2.8
Other Helpers, Laborers, and Material Movers, Hand	11,680	NA	3.8

[1/]Details may not add to total due to rounding or data suppression.

TABLE 3
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent Of Total Employment
Textile Machine Operators and Tenders	58,870	19.3
Sewing Machine Operators, Garment	53,340	17.5
Production Inspectors, Testers, and Graders	14,060	4.6
Sewing Machine Operators, Non-Garment	11,640	3.8
Textile Bleaching and Dyeing Machine Operators and Tenders	9,700	3.2

FIGURE 3
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 24

LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE

May 1989

Establishments in this group are primarily engaged in cutting timber and pulpwood; sawmills, lathe mills, shingle mills, cooperage stock mills, planing mills, plywood mills, and veneer mills. Also included in this category are establishments which manufacture finished articles made entirely or mainly of wood or wood substitutes.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	35,940	NA	100.0
Managers and Officers	2,070	NA	5.8
Financial Managers	90	10.7	0.3
Personnel and Labor Relations Managers	50	9.5	0.1
Purchasing Managers	60	9.0	0.2
Marketing, Advertising, and Public Relations Managers	60	12.7	0.2
Administrative Services Managers	20	30.1	0.7
Engineering, Mathematical, and Natural Science Managers	30	12.1	0.1
Industrial Productions Managers	340	10.3	0.9
General Managers and Top Executives	1,380	6.7	3.8
Other Managers and Administrators	40	NA	0.1
Professional and Technical Workers	680	NA	1.9
Accountants and Auditors	90	18.8	0.3
Purchasing Agents and Buyers, Farm Products	40	52.9	0.1
Purchasing Agents and Buyers, Except Farm Products	130	20.7	0.4
Personnel and Labor Relations Specialists	40	25.9	0.1
Cost Estimators	60	18.1	0.2
Other Management Support Workers	40	NA	0.1
Industrial Engineers, except Safety	20	31.6	0.1
Mechanical Engineers	30	19.2	0.1
Drafters	60	19.3	0.2
Other Engineering Technicians and Technologists	30	NA	0.1
Foresters and Conservation Scientists	70	34.9	0.2
Other Professional and Technical Workers	70	NA	0.2
Sales Workers	630	NA	1.8
Sales Supervisors	60	18.1	0.2
Sales Representatives, Scientific, except Retail	20	33.1	0.1
Sales Representatives, Nonscientific, except Retail	410	10.6	1.4
Other Sales and Related Workers	140	NA	0.4
Clerical Workers	2,400	NA	6.7
Clerical and Administrative Supervisors	80	12.4	0.2

SIC 24

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Adjustment Clerks	30	9.8	0.1
Secretaries	650	8.7	1.8
Receptionists and Information Clerks	60	8.4	0.2
Personnel Clerks	20	12.3	0.1
Order Clerks	20	21.8	0.1
Bookkeeping, Accounting, and Auditing Clerks	390	9.5	1.1
Payroll and Timekeeping Clerks	60	10.9	0.1
Billing, Cost, and Rate Clerks	40	18.1	0.1
General Office Clerks	380	15.8	1.1
Computer Operators	20	29.1	0.1
Data Entry Keyers	40	17.1	0.1
Switchboard Operators	20	16.7	0.1
Production, Planning, and Expediting Clerks	100	19.9	0.3
Stock Clerks, Stockroom or Warehouse	80	13.1	0.2
Traffic, Shipping, and Receiving Clerks	320	8.7	0.9
Other Material Recording and Related Workers	30	NA	0.1
Other Clerical and Administrative Workers	60	NA	0.2
Service Workers	440	NA	1.2
Service Supervisors	30	29.5	0.1
Guards and Watch Guards	170	9.8	0.5
Janitors and Cleaners	200	13.3	0.6
Other Service Workers	40	NA	1.0
Agricultural, Forestry, or Fishery Workers	3,330	NA	9.3
Supervisors	220	16.9	0.6
Fallers and Buckers	690	10.3	1.9
Choke Setters	160	23.6	0.5
Log Handling Equipment Operators	600	11.4	1.7
Logging Tractor Operators	1,360	7.4	3.8
Other Logging Workers	50	NA	0.1
Log Graders and Scalers	170	16.0	0.5
Other Agricultural, Forestry, or Fishery Workers	80	NA	0.2
Production and Maintenance Workers	26,360	NA	73.3
Mechanic and Repairer Supervisors	70	13.6	0.2
Production Supervisors	960	5.5	2.7
Laborer Supervisors	50	22.2	0.1
Other Supervisors	20	NA	0.1
Production Inspectors	670	11.1	1.9
Machinery Maintenance Mechanics	470	14.5	1.3
Millwrights	110	24.9	0.3
Machinery Maintenance Workers	180	25.9	0.5
Maintenance Repairers, General Utility	450	9.3	1.2
Automotive Mechanics	60	24.4	0.2
Bus, Truck, and Diesel Mechanics	30	19.1	0.1
Installers and Repairers, Mobile Homes and Trailers	180	4.0	0.5
Other Mechanics, Installers, and Repairers	40	NA	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Carpenters	720	19.5	2.0
Electricians	170	9.6	0.5
Plumbers and Pipefitters	50	12.7	0.1
Machinists	30	22.1	0.1
Precision Grinders, Filers, etc.	170	33.7	0.5
Sheet Metal Workers	110	14.2	0.3
Pattern Markers, Wood	50	27.5	0.1
Wood Machinists	1,870	14.6	5.2
Cabinetmakers and Bench Carpenters	580	24.7	1.6
Other Precision Woodworkers	30.0	NA	0.8
Other Precision Workers	100	NA	0.3
Welding Machine Setters and Set-up Operators	30	11.3	0.1
Welding Machine Operators and Tenders	20	30.2	0.1
Sawing Machine Setters and Set-up Operators	340	14.6	0.9
Head Sawyers	230	13.5	0.6
Sawing Machine Operators and Tenders	1,540	8.2	4.3
Woodworking Machine Setters and Set-up Operators	800	13.9	2.2
Woodworking Machine Operators and Tenders	1,460	10.9	4.1
Sewing Machine Operators, Nongarment	20	15.7	0.1
Furnace, Kiln, and Oven Operators	250	22.1	0.7
Boiler Operators and Tenders, Low Pressure	110	15.6	0.3
Painting and Related Machine Setters and Set-up Operators	120	28.1	0.3
Painting and Related Machine Operators and Tenders	360	28.6	1.0
Cementing and Gluing Machine Operators and Tenders	430	23.8	1.2
Extruding, Forming, Pressing, and Compacting Machine Operators and Tenders	50	20.6	0.1
Packing and Filling Machine Operators and Tenders	50	25.9	0.1
Other Machine Setters and Set-up Operators	120	NA	0.3
Other Machine Operators and Tenders	340	NA	0.9
Welders and Cutters	40	22.6	0.1
Grinding and Polishing Workers, Hand	360	26.5	1.0
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	3,390	8.9	9.4
Other Hand Workers	290	NA	0.8
Truck Drivers, Heavy - inc. Tractor Trailer	1,300	8.0	3.6
Truck Drivers, Light - inc. Delivery and Route Workers	30	23.6	0.1
Other Transportation Workers	20	NA	0.1
Grader, Dozer, and Scraper Operators	40	10.6	0.1

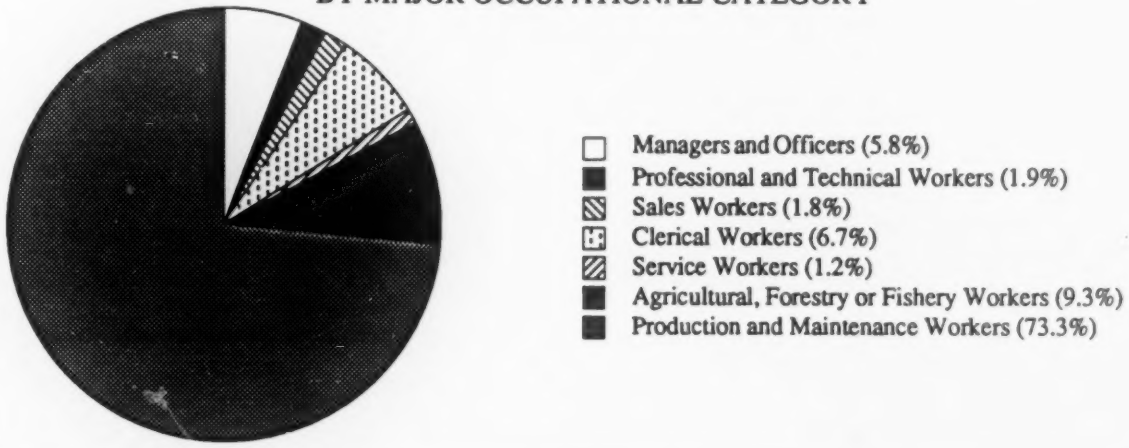
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Industrial Truck and Tractor Operators	790	7.3	2.2
Conveyor Operators and Tenders	70	27.2	0.2
Other Material Moving Equipment Operators and Tenders	50	NA	0.2
Mechanic and Repairer Helpers	40	21.8	0.1
Machine Feeders and Offbearers	2,900	6.5	8.1
Material Movers, Hand	1,380	12.9	3.9
Hand Packers and Packagers	390	18.5	1.1
Other Helpers, Laborers, and Material Movers, Hand	1,560	NA	4.3

[1/] Details may not add to total due to rounding or data suppression.

TABLE 4
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	3,390	9.4
Machine Feeders and Offbearers	2,900	8.1
Wood Machinists	1,870	5.2
Sawing Machine Operators and Tenders	1,540	4.3
Woodworking Machine Operators and Tenders	1,460	4.1

FIGURE 4
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (5.8%)
Professional and Technical Workers (1.9%)
Sales Workers (1.8%)
Clerical Workers (6.7%)
Service Workers (1.2%)
Agricultural, Forestry or Fishery Workers (9.3%)
Production and Maintenance Workers (73.3%)

SIC 26

PAPER AND ALLIED PRODUCTS

April 1989

This major group includes establishments primarily engaged in the manufacture of pulps from wood, cellulose fibers, and rags; the manufacture of paper and paperboard into converted products such as paper bags, boxes, and envelopes. It does not include abrasive paper, carbon paper, photosensitized, or blueprint paper.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	22,690	NA	100.0
Managers and Officers	950	NA	4.2
Financial Managers	70	8.9	0.3
Personnel and Labor Relations Managers	50	7.2	0.2
Purchasing Managers	40	14.2	0.2
Marketing, Advertising, and Public Relations Managers	70	14.0	0.3
Administrative Services Managers	20	21.5	0.1
Engineering, Mathematical, and Natural Science Managers	20	13.3	0.1
Industrial Production Managers	240	8.7	1.0
General Managers and Top Executives	330	6.7	1.5
Other Managers and Administrators	110	NA	0.5
Professional and Technical Workers	880	NA	3.9
Accountants and Auditors	100	11.0	0.4
Other Financial Specialists	20	NA	0.1
Purchasing Agents and Buyers, Except Farm Products	60	11.8	0.3
Personnel and Labor Relations Specialists	40	6.7	0.2
Cost Estimators	60	18.9	0.3
Chemical Engineers	80	5.7	0.3
Electrical and Electronic Engineers	30	16.7	0.1
Computer Engineers	20	12.4	0.1
Industrial Engineers, except Safety	70	6.0	0.3
Mechanical Engineers	60	10.0	0.3
Other Engineers	20	NA	0.1
Industrial Engineering Technicians and Technologists	30	3.3	0.1
Drafters	30	21.0	0.1
Other Engineering Technicians and Technologists	20	NA	0.1
Chemists	20	17.4	0.1
Chemical Technicians and Technologists	30	11.0	0.1
Other Science Technicians and Technologists	20	NA	0.1
Systems Analysts, EDP	20	9.7	0.1
Computer Programmers	30	12.5	0.1
Computer Programmer Aides	20	11.1	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Health Practitioners, Technicians, and Technologists	20	4.5	0.1
Designers	60	21.4	0.3
Other Professional and Technical Workers	20	NA	0.1
Sales Workers	540	NA	2.4
Sales Supervisors	80	17.8	0.3
Sales Representatives, Scientific, except Retail	330	11.9	1.5
Other Sales and Related Workers	130	NA	0.6
Clerical Workers	1,810	NA	8.0
Clerical and Administrative Supervisors	100	19.2	0.4
Adjustment Clerks	160	13.7	0.7
Secretaries	220	7.2	1.0
Receptionists and Information Clerks	30	14.2	0.1
Typists	30	20.0	0.1
Personnel Clerks	40	8.3	0.2
Order Clerks	40	28.0	0.2
Procurement Clerks	20	14.9	0.1
Bookkeeping, Accounting, and Auditing Clerks	180	14.1	0.8
Payroll and Timekeeping Clerks	100	22.1	0.4
Billing, Cost, and Rate Clerks	80	26.9	0.4
General Office Clerks	120	10.9	0.5
Billing, Posting, and Calculating Machine Operators	20	30.6	0.1
Computer Operators	30	8.6	0.1
Data Entry Keyers	30	13.9	0.1
Switchboard Operators	20	12.3	0.1
Production, Planning, and Expediting Clerks	160	8.7	0.7
Weighers, Measurers, Checkers, and Samplers	30	26.4	0.1
Stock Clerks, Stockroom or Warehouse	60	13.2	0.3
Traffic, Shipping, and Receiving Clerks	220	12.2	1.0
Other Material Recording and Related Workers	70	NA	0.3
Other Clerical and Administrative Workers	50	NA	0.2
Service Workers	270	NA	1.2
Guards and Watchguards	30	16.0	0.1
Janitors and Cleaners	140	8.0	0.6
Other Service Workers	100	NA	0.5
Agricultural, Forestry, or Fishery Workers	140	NA	0.6
Log Handling Equipment Operators	140	32.2	0.6
Production and Maintenance Workers	18,060	NA	79.6
Mechanic and Repairer Supervisors	100	9.6	0.5
Production Supervisors	790	4.9	3.5
Transportation and Material Moving Supervisors	50	11.4	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Laborer Supervisors	20	25.0	0.1
Other Supervisors	40	NA	0.2
Precision Inspectors, Testers, and Graders	80	22.9	0.4
Production Inspectors, Testers, and Graders	540	14.0	2.4
Machinery Maintenance Mechanics, Water, or Power Generation Plant	340	13.3	1.5
Other Maintenance Mechanics	250	NA	1.1
Millwrights	240	11.0	1.0
Machinery Maintenance Workers	140	12.8	1.6
Maintenance Repairer, General Utility	640	10.3	2.8
Automotive Mechanics	40	9.5	0.2
Bus, Truck, and Diesel Mechanics	30	18.7	0.1
Precision Instrument Repairers	110	6.0	0.5
Other Mechanics, Installers, and Repairers	30	NA	0.1
Carpenters	30	10.0	0.1
Electricians	200	5.9	0.9
Painters and Paperhangers	40	8.2	0.2
Other Construction and Extractive Workers	180	NA	0.8
Tool and Die Makers	110	14.6	0.5
Machinists	130	21.9	0.6
Other Precision Workers	30	NA	0.1
Other Metal and Plastic Machine Operators and Tenders	70	NA	0.3
Printing Press Machine Setters and Set-up Operators	140	33.2	0.6
Other Printing and Related Machine Setters and Set-up Operators	200	NA	0.9
Printing Press Machine Operators and Tenders	540	15.7	2.4
Other Printing and Related Machine Operators and Tenders	250	NA	1.1
Paper Goods Machine Setters and Set-up Operators	1,410	14.6	6.2
Low Pressure Boiler Operators	150	20.0	0.7
Chemical Equipment Controllers and Operators	110	13.1	0.5
Cutting and Slicing Machine Operators and Tenders	1,030	7.8	4.5
Printing and Related Machine Operators and Tenders	260	16.2	1.1
Cementing and Gluing Machine Operators and Tenders	640	18.8	2.8
Cleaning, Washing, and Pickling Equipment Operators and Tenders	80	21.2	0.3
Crushing, Grinding, and Mixing Machine Operators and Tenders	310	13.6	1.3
Extruding, Forming, and Pressing Machine Operators and Tenders	300	10.9	1.3
Packaging and Filling Machine Operators and Tenders	250	15.1	1.1

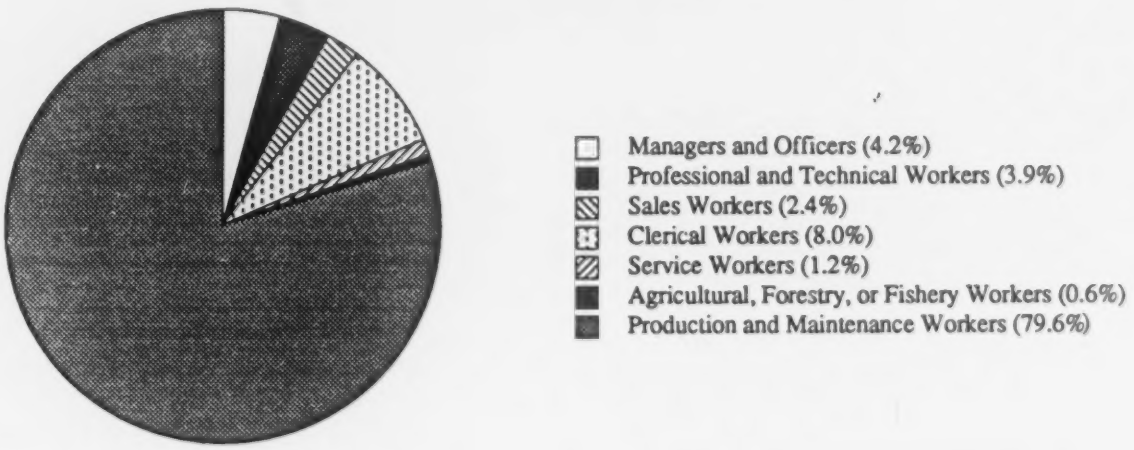
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Machine Setters and Set-up Operators	560	NA	2.5
Other Machine Operators and Tenders	1,060	NA	4.7
Welders and Cutters	110	9.8	0.5
Other Hand Workers	640	NA	2.8
Waste Treatment Plant and System Operators	30	9.1	0.1
Other Plant and System Operators	120	NA	0.5
Truck Drivers, Heavy - inc. Tractor Trailer	420	13.4	1.8
Truck Drivers, Light - inc. Delivery and Route Workers	60	17.1	0.3
Crane and Tower Operators	40	23.4	0.2
Industrial Truck and Tractor Operators	560	7.9	2.5
Conveyor Operators and Tenders	60	17.1	0.3
Other Material Moving Equipment Operators	80	NA	0.4
Mechanic and Repairer Helpers	50	32.2	0.2
Machine Feeders and Offbearers	1,140	15.6	5.0
Material Movers, Hand	550	20.3	2.4
Hand Packers and Packagers	830	14.4	3.6
Other Helpers, Laborers, and Material Movers, Hand	1,840	NA	8.1

[1/]Details may not add to total due to rounding or data suppression.

TABLE 5
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Paper Goods Machine Setters and Set-up Operators	1,410	6.2
Machine Feeders and Offbearers	1,140	5.0
Cutting and Slicing Machine Operators and Tenders	1,030	4.5
Hand Packers and Packagers	830	3.6
Production Supervisors	790	3.5

FIGURE 5
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (4.2%)
Professional and Technical Workers (3.9%)
Sales Workers (2.4%)
Clerical Workers (8.0%)
Service Workers (1.2%)
Agricultural, Forestry, or Fishery Workers (0.6%)
Production and Maintenance Workers (79.6%)

SIC 27
Except 279

PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

May 1989

This major group includes establishments engaged in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen. Also included are establishments engaged in publishing newspapers, books, and periodicals, regardless of whether or not they do their own printing.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	28,770	NA	100.0
Managers and Officers	2,330	NA	8.1
Financial Managers	60	12.4	0.2
Personnel and Labor Relations Managers	40	9.9	0.1
Purchasing Managers	30	17.9	0.1
Marketing, Advertising, and Public Relations Managers	440	20.9	1.5
Administrative Services Managers	30	17.1	0.1
Engineering, Mathematical, and Natural Science Managers	30	24.7	0.1
Industrial Production Managers	290	15.7	1.0
General Managers and Top Executives	1,220	7.5	4.2
Other Managers and Administrators	190	NA	0.7
Professional and Technical Workers	3,160	NA	11.0
Accountants and Auditors	40	20.8	0.1
Purchasing Agents and Buyers, except Farm Products	20	10.6	0.1
Cost Estimators	200	17.3	0.7
Other Management Support Workers	70	NA	0.2
System Analysts, EDP	20	8.3	0.1
Computer Programmers	90	8.8	0.3
Librarian, Professional	20	21.1	0.1
Writers and Editors	780	12.6	2.7
Reporters and Correspondents	1,260	11.7	4.4
Photographers	210	17.0	0.7
Artists and Related Workers	210	15.0	0.7
Designers	90	29.4	0.3
Other Professional and Technical Workers	150	NA	0.5
Sales Workers	3,100	NA	10.8
Sales Supervisors	500	16.3	1.7
Sales Agents, Advertising	1,080	13.9	3.8
Sales Representatives, Nonscientific, except Retail	1,080	12.0	3.8
Cashiers	30	27.6	0.1
News and Street Vending and Related Workers	260	16.8	0.9
Other Sales and Related Workers	150	NA	0.5
Clerical Workers	5,210	NA	18.1
Clerical and Administrative Supervisors	310	13.7	1.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Adjustment Clerks	360	11.1	1.3
Library Assistant and Bookmobile Drivers	20	29.5	0.1
Advertising Clerks	260	12.7	0.9
Proofreaders and Copy Markers	210	14.6	0.7
Secretaries	460	11.1	1.6
Receptionists and Information Clerks	250	9.2	0.9
Typists	80	34.5	0.3
Typists, Word Processing Equipment	150	25.4	0.5
Personnel Clerks	20	15.5	0.1
Order Clerks	210	19.8	0.7
Bookkeeping, Accounting, and Auditing Clerks	480	12.7	1.7
Payroll and Timekeeping Clerks	40	12.4	0.1
Billing, Cost, and Rate Clerks	60	14.0	0.2
General Office Clerks	580	22.6	2.0
Mail Machine Operators	230	24.3	0.8
Computer Operators	60	21.8	0.2
Data Entry Keyers	60	21.1	0.2
Data Keyers, Composing	290	28.5	1.0
Other Office Machine Operators	100	NA	0.3
Switchboard Operators	60	20.0	0.2
Mail Clerks, except Mail Machine Operators and Postal Service	80	6.0	0.3
Messengers	80	13.9	0.3
Production, Planning, and Expediting Clerks	160	16.7	0.6
Stock Clerks, Stockroom or Warehouse	110	18.6	0.4
Traffic, Shipping, and Receiving Clerks	240	13.4	0.9
Other Material Recording and Related Workers	60	NA	0.2
Other Clerical and Administrative Workers	190	NA	0.7
Service Workers	290	NA	1.0
Supervisors	30	23.4	0.1
Guards and Watch Guards	30	15.1	0.1
Janitors and Cleaners	210	16.8	0.7
Other Cleaning and Building Service Workers	20	NA	0.1
Production and Maintenance Workers	14,620	NA	50.8
Mechanic and Repairer Supervisors	20	11.7	0.1
Production Supervisors	650	8.8	2.3
Transportation and Material Moving Supervisors	40	33.4	0.1
Laborer Supervisors	70	26.3	0.2
Production Inspectors	110	15.8	0.4
Machinery Maintenance Mechanics	60	12.2	0.2
Maintenance Repairers, General Utility	100	18.6	0.3
Other Mechanics, Installers, and Repairers	40	NA	0.1
Electricians	20	33.5	0.1
Machinists	20	29.8	0.1
Hand Compositors and Typesetters	110	32.6	0.4
Job Printers	220	32.7	0.8

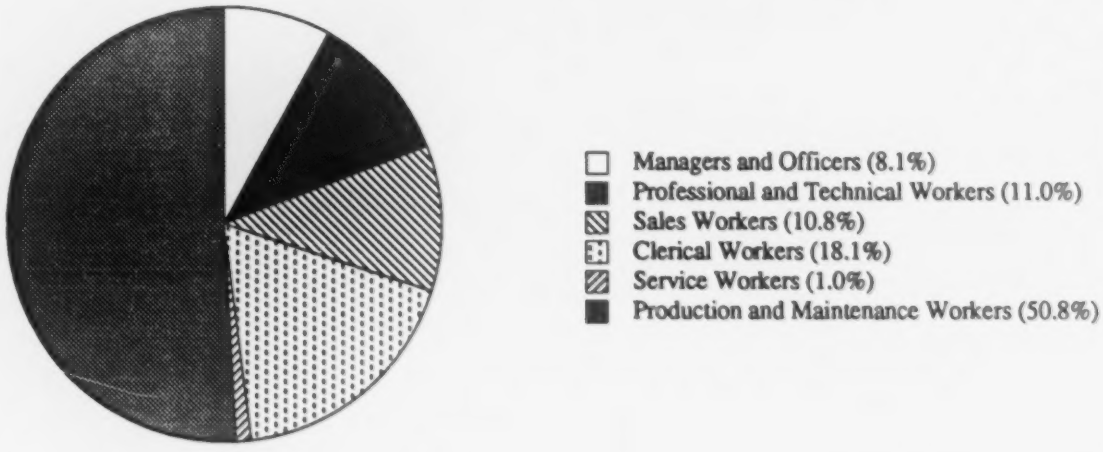
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Paste-up Workers	730	11.1	2.5
Electronic Pagination System Operators	220	24.6	0.8
Photoengravers	210	28.3	0.7
Camera Operators	420	14.2	1.5
Strippers	820	8.9	2.8
Platemakers	240	16.1	0.8
Other Lithography and Photoengraving Workers	210	NA	0.7
Other Precision Printing Workers	110	NA	0.4
Other Precision Workers	60	NA	0.2
Offset Lithographic Press Setters and Set-up Operators	1,760	8.6	6.1
Letterpress Setters and Set-up Operators	350	28.3	1.2
Other Printing Press Setters and Set-up Operators	220	NA	0.8
Bindery Machine Setters and Set-up Operators	700	15.3	2.4
Other Printing and Related Setters and Set-up Operators	270	NA	0.9
Typesetting and Composing Machine Operators and Tenders	510	14.9	1.9
Printing Press Machine Operators and Tenders	1,390	14.9	4.8
Bindery Machine Operators	940	13.2	3.3
Other Printing, Binding, and Related Machine Operators and Tenders	130	NA	0.4
Cutting and Slicing Machine Setters and Set-up Operators	90	17.9	0.3
Cutting and Slicing Machine Operators and Tenders	190	17.8	0.6
Cementing and Gluing Machine Operators and Tenders	30	20.1	0.1
Other Machine Setters and Set-up Operators	100	NA	0.3
Other Machine Operators and Tenders	110	NA	0.4
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	330	24.9	1.2
Other Hand Workers	160	NA	0.5
Truck Drivers, Heavy - inc. Tractor Trailer	20	16.5	0.1
Truck Drivers, Light - inc. Delivery and Route Workers	300	34.0	1.1
Driver/Sales Workers	300	34.0	1.1
Industrial Truck and Tractor Operators	70	20.4	0.2
Other Material Moving Equipment Operators	20	NA	0.1
Machine Feeders and Offbearers	560	23.9	2.0
Hand Packers and Packagers	1,100	19.1	3.8
Other Helpers, Laborers, and Material Movers, Hand	490	NA	1.7

[1/] Details may not add to total due to rounding or data suppression.

TABLE 6
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Offset Lithographic Press Setters and Set-up Operators	1,760	6.1
Printing Press Machine Operators and Tenders	1,390	4.8
Reporters and Correspondents	1,260	4.4
General Managers and Top Executives	1,220	4.2
Sales Agents, Advertising	1,080	3.8

FIGURE 6
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 28

Except 281 and 287

CHEMICALS AND ALLIED PRODUCTS

June 1989

This major group includes those establishments primarily engaged in the production of products made predominantly by chemical processes. The production of basic chemicals, chemical products to be further manufactured, and the finished chemical products to be used for consumption, as in soap or drugs, are also included in this category.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	38,590	NA	100.0
Managers and Officers	2,560	NA	6.6
Financial Managers	140	14.9	0.4
Personnel and Labor Relations Managers	120	14.6	0.3
Purchasing Managers	60	6.1	0.2
Marketing, Advertising, and Public Relations Managers	420	14.9	1.1
Administrative Services Managers	170	20.3	0.4
Engineering, Mathematical, and Natural Science Managers	410	15.3	1.1
Industrial Production Managers	460	6.0	1.2
General Managers and Top Executives	530	6.2	1.4
Other Managers and Administrators	250	NA	0.6
Professional and Technical Workers	6,890	NA	17.9
Accountants and Auditors	180	4.6	0.5
Budget Analysts	60	11.7	0.2
Other Financial Specialists	70	NA	0.2
Purchasing Agents and Buyers, except Farm Products	140	5.2	0.4
Personnel and Labor Relations Specialists	160	11.3	0.4
Compliance Officers and Enforcement Inspectors, except Construction	20	21.7	0.1
Other Management Support Workers	520	NA	1.3
Chemical Engineers	540	7.2	1.4
Electrical and Electronic Engineers	120	16.1	0.3
Computer Engineers	60	14.9	0.2
Industrial Engineers, except Safety	120	8.0	0.3
Safety Engineers, except Mining	30	9.1	0.1
Mechanical Engineers	190	6.9	0.5
Other Engineers	80	NA	0.2
Electrical and Electronic Engineering Technicians and Technologists	80	6.4	0.2
Industrial Engineering Technicians and Technologists	30	11.8	0.1
Mechanical Engineering Technicians and Technologists	80	17.3	0.2
Drafters	30	6.0	0.1
Other Engineering Technicians and Technologists	180	NA	0.5

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Chemists	610	5.9	1.6
Other Physical Scientists	20	NA	0.1
Biological Scientists	510	23.1	1.3
Medical Scientists	370	29.7	0.9
Other Life Scientists	180	NA	0.5
Biological, Agricultural, and Food Technicians and Technologists, except Health	190	19.3	0.5
Chemical Technicians and Technologists, except Health	980	7.3	2.5
Other Science Technicians and Technologists	500	NA	1.3
Systems Analysts, EDP	220	20.5	0.6
Computer Programmers	170	11.6	0.4
Computer Programmer Aides	60	11.2	0.1
Other Computer Scientists	30	NA	0.1
Math Scientists	70	24.7	0.2
Lawyers	40	22.3	0.1
Registered Nurses	50	4.9	0.1
Designers	40	15.3	0.1
Other Professional and Technical Workers	160	NA	0.4
Sales Workers	1,440	NA	3.7
Sales Supervisors	380	25.6	1.0
Sales Engineers	50	23.6	0.1
Sales Representatives, Scientific, except Retail	570	8.0	1.5
Sales Representative, Nonscientific, except Retail	270	13.4	0.7
Other Sales and Related Workers	170	NA	0.4
Clerical Workers	4,350	NA	11.3
Clerical and Administrative Supervisors	270	9.9	0.7
Adjustment Clerks	130	15.2	0.3
Secretaries	990	11.5	2.6
Stenographers	50	10.7	0.1
Receptionists and Information Clerks	40	8.7	0.1
Typists	80	9.5	0.2
Typists, Word Processing Equipment	140	14.6	0.4
Personnel Clerks	80	5.6	0.2
Order Clerks	200	21.9	0.5
Procurements Clerks	80	7.1	0.2
Bookkeeping, Accounting, and Auditing Clerks	330	7.0	0.8
Payroll and Timekeeping Clerks	60	7.7	0.2
Billing, Cost, and Rate Clerks	60	8.0	0.1
General Office Clerks	400	7.8	1.0
Computer Operators	140	10.7	0.4
Data Entry Keyers	90	6.6	0.2
Switchboard Operators	50	8.0	0.1
Mail Clerks, except Mail Machine Operators and Postal Service Workers	50	13.6	0.1
Production, Planning, and Expediting Clerks	270	7.4	0.7

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Weighers, Measurers, Checkers, and Samplers - Recordkeepers	20	24.3	0.1
Stock Clerks, Stockroom or Warehouse	130	8.7	0.3
Traffic, Shipping, and Receiving Clerks	430	9.6	1.1
Other Material Recording and Related Workers	30	NA	0.1
Other Clerical and Administrative Workers	230	NA	0.6
Service Workers	370	NA	1.0
Service Supervisors	70	12.4	0.2
Guards and Watch Guards	80	9.8	0.2
Janitors and Cleaners	180	11.2	0.5
Other Service Workers	40	NA	0.1
Agricultural, Forestry, or Fishery Workers	40	NA	0.1
Production and Maintenance Workers	22,940	NA	59.4
Mechanic and Repairer Supervisors	180	7.3	0.5
Construction Supervisors	80	4.8	0.2
Production Supervisors	1,040	3.6	2.7
Transportation and Material Moving Supervisors	130	20.1	0.3
Laborer Supervisors	70	8.2	0.2
Other Supervisors	50	NA	0.1
Precision Inspectors, Testers, and Graders	150	9.7	0.4
Production Inspectors, Testers, and Graders	1,960	23.0	5.1
Machinery Maintenance Mechanics, Water or Power Generation Plant	290	19.0	0.7
Other Machinery Maintenance Mechanics	1,370	NA	3.5
Machinery Maintenance Workers	70	17.9	0.2
Maintenance Repairer, General Utility	510	9.1	1.3
Heating, Air Conditioning, and Refrigeration Mechanics	40	11.4	0.1
Precision Instrument Repairers	140	23.3	0.4
Other Mechanics, Installers, and Repairers	100	NA	0.2
Carpenters	20	11.2	0.1
Electricians	220	11.3	0.6
Painters and Paperhangers	20	8.2	0.1
Other Construction and Extractive Workers	40	NA	0.1
Machinists	80	8.3	0.2
Other Precision Workers	30	NA	0.1
Extruding Machine Operators and Tenders, Synthetic or Glass Fibers	2,960	11.9	7.7
Textile Draw-Out Machine Operators and Tenders	520	25.2	1.4
Boiler Operators and Tenders, Low Pressure	110	20.2	0.3
Chemical Equipment Controllers and Operators	1,240	15.5	3.2
Chemical Equipment Tenders	130	27.9	0.3
Painting and Related Machine Operators and Tenders	110	29.1	0.3

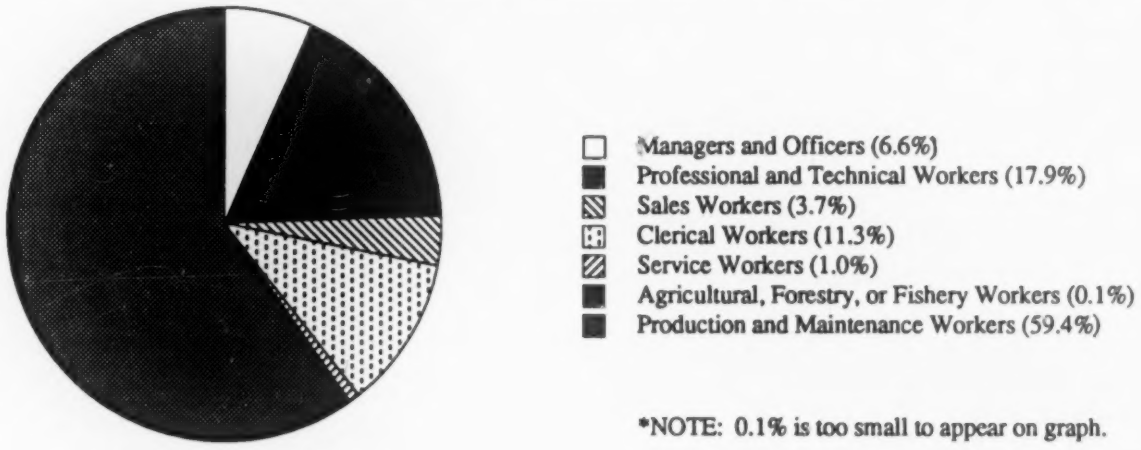
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Cleaning, Washing, and Pickling Equipment Operators and Tenders	90	21.9	0.2
Separating, Filtering, and Related Machine Operators and Tenders	140	10.3	0.4
Crushing, Grinding, and Mixing Operators and Tenders	1,030	6.9	2.7
Extruding, Forming, and Pressing Machine Setters and Set-up Operators	30	21.4	0.1
Extruding, Forming, and Pressing Machine Operators and Tenders	340	17.4	0.9
Packing and Filling Machine Operators and Tenders	2,610	17.7	6.8
Other Machine Setters and Set-up Operators	680	NA	1.7
Other Machine Operators and Tenders	1,970	NA	5.1
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	810	14.5	2.1
Other Hand Workers	80	NA	0.2
Waste Treatment Plant Operators	50	6.3	0.1
Chemical Plant and System Operators	250	9.8	0.7
Stationary Engineers	90	10.4	0.2
Truck Drivers, Heavy - inc. Tractor Trailer	190	10.9	0.5
Truck Drivers, Light - inc. Delivery and Route Workers	40	21.8	0.1
Tank, Car, and Truck Loaders	50	32.1	0.1
Industrial Truck and Tractor Operators	460	10.2	1.2
Other Material Moving Equipment Operators	110	NA	0.3
Mechanic and Repairer Helpers	60	25.9	0.2
Machine Feeders and Offbearers	110	20.6	0.3
Material Movers, Hand	1,010	15.1	2.6
Hand Packers and Packagers	610	10.7	1.6
Other Helpers, Laborers, and Material Movers, Hand	470	NA	1.2

[1/]Details may not add to total due to rounding or data suppression.

TABLE 7
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Extruding Machine Operators and Tenders Synthetic or Glass Fibers	2,960	7.7
Packing and Filling Machine Operators and Tenders	2,610	6.8
Production Inspectors, Testers, and Graders	1,960	5.1
Chemical Equipment Controlers and Operators	1,240	3.2
Production Supervisors	1,040	2.7

FIGURE 7
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (6.6%)
Professional and Technical Workers (17.9%)
Sales Workers (3.7%)
Clerical Workers (11.3%)
Service Workers (1.0%)
Agricultural, Forestry, or Fishery Workers (0.1%)
Production and Maintenance Workers (59.4%)

*NOTE: 0.1% is too small to appear on graph.

SIC 30

RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS

June 1989

Establishments engaged in the manufacture of rubber tires, rubber footwear, mechanical rubber goods, heels and soles, flooring, and rubber sundries are included in this group. Tire manufacturing, but not recapping, or retreading of tires, is included in this category. These firms manufacture from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak. This group also includes the manufacture of plastic footwear, plastic hoses, and plastic belting.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	35,410	NA	100.0
Managers and Officers	1,420	NA	4.0
Financial Managers	90	20.4	0.3
Personnel and Labor Relations Managers	90	20.4	0.3
Purchasing Managers	60	24.6	0.2
Marketing, Advertising, and Public Relations Managers	70	22.7	0.2
Engineering, Mathematical, and Natural Science Managers	80	16.2	0.2
Industrial Production Managers	360	11.7	1.0
General Managers and Top Executives	430	8.8	1.2
Other Managers and Administrators	210	NA	0.6
Professional and Technical Workers	1,120	NA	3.2
Accountants and Auditors	80	10.0	0.2
Purchasing Agents and Buyers, except Farm Products	90	16.6	0.3
Personnel and Labor Relations Specialists	50	15.2	0.1
Other Management Support Workers	50	NA	0.1
Electrical and Electronic Engineers	30	25.6	0.1
Industrial Engineers, except Safety	170	32.0	0.5
Mechanical Engineers	110	14.4	0.3
Other Engineers	120	NA	0.3
Electrical and Electronic Technicians and Technologists	30	26.7	0.1
Mechanical Engineering Technicians and Technologists	20	34.4	0.1
Drafters	40	26.5	0.1
Other Engineering Technicians and Technologists	50	NA	0.2
Chemists	70	33.3	0.2
Chemical Technicians and Technologists, except Health	90	28.4	0.3
Systems Analysts, EDP	20	34.2	0.1
Computer Programmer Aides	20	20.4	0.1
Other Professional and Technical Workers	80	NA	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Sales Workers	300	NA	0.8
Sales Representatives, Nonscientific, except Retail	170	19.9	0.5
Other Sales and Related Workers	130	NA	0.4
Clerical Workers	2,230	NA	6.3
Clerical and Administrative Supervisors	100	26.9	0.3
Secretaries	260	15.9	0.7
Personnel Clerks	70	17.8	0.2
Order Clerks	90	19.8	0.3
Procurement Clerks	40	31.8	0.1
Bookkeeping, Accounting, and Auditing Clerks	230	13.8	0.6
Payroll and Timekeeping Clerks	70	21.3	0.2
Billing, Cost, and Rate Clerks	40	25.7	0.1
General Office Clerks	170	19.5	0.5
Data Entry Keyers	40	30.7	0.1
Switchboard Operators	40	23.0	0.1
Production, Planning, and Expediting Clerks	180	11.3	0.5
Stock Clerks, Stockroom or Warehouse	130	12.3	0.4
Traffic, Shipping, and Receiving Clerks	380	22.5	1.1
Other Material Recording and Related Workers	70	NA	0.2
Other Clerical and Administrative Workers	320	NA	0.9
Service Workers	300	NA	0.8
Guards and Watch Guards	40	26.0	0.1
Janitors and Cleaners	190	13.0	0.5
Other Service Workers	70	NA	0.2
Production and Maintenance Workers	30,000	NA	84.7
Mechanic and Repairer Supervisors	140	16.2	0.4
Production Supervisors	1,600	6.6	4.5
Transportation and Material Moving Supervisors	100	18.3	0.3
Other Supervisors	270	NA	0.8
Precision Inspectors, Testers and Graders	320	24.8	0.9
Production Inspectors, Testers, and Graders	940	11.1	2.7
Machinery Maintenance Mechanics	700	15.8	2.0
Millwrights	80	25.3	0.2
Maintenance Repairers, General Utility	420	16.0	1.2
Precision Instrument Repairers	110	31.8	0.3
Other Maintenance Mechanics	220	NA	0.6
Electricians	140	24.1	0.4
Other Construction and Extractive Workers	30	NA	0.1
Tool and Die Makers	80	23.9	0.2
Machinists	330	28.2	0.9
Tool Grinders, Filers, Sharpeners, and Other Precision Grinders	100	33.1	0.3
Other Precision Workers	310	NA	0.9

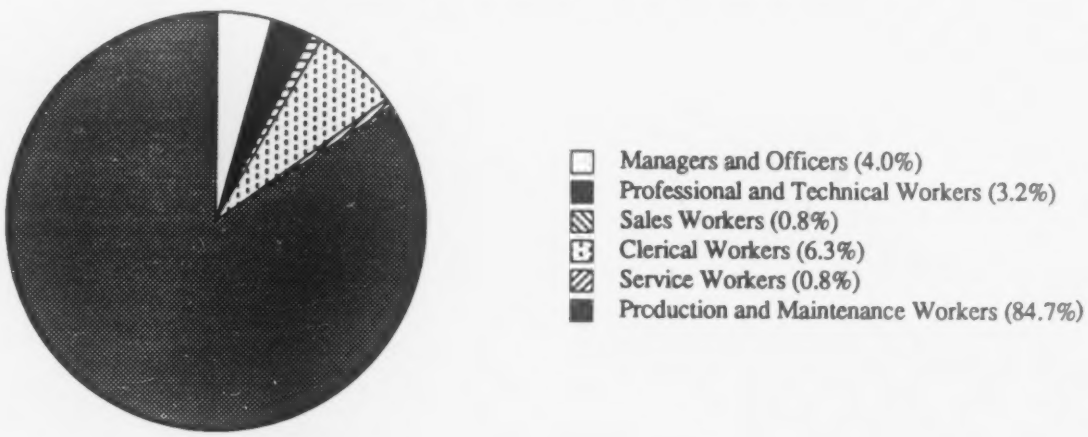
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Plastic Molding and Casting Machine Setters and Set-up Operators	460	28.5	1.3
Plastic Molding and Casting Machine Operators and Tenders	2,940	27.0	8.3
Other Metal and Plastic Machine Setters and Set-up Operators	1,450	NA	4.1
Other Metal and Plastic Machine Operators and Tenders	1,870	NA	5.3
Sewing Machine Operators, Non-Garment	330	7.4	0.9
Low Pressure Boiler Operators	20	28.2	0.1
Cutting and Slicing Machine Setters and Set-up Operators	150	19.0	0.4
Cutting and Slicing Machine Operators and Tenders	460	32.8	1.3
Painting and Related Machine Operators and Tenders	320	27.8	0.9
Crushing, Grinding, and Mixing Machine Operators and Tenders	960	17.5	2.7
Extruding, Forming, and Pressing Machine Operators and Tenders	1,290	20.6	3.7
Other Machine Setters and Set-up Operators	700	NA	2.0
Other Machine Operators and Tenders	3,730	NA	10.5
Cutters and Trimmers, Hand	170	19.4	0.5
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	2,020	24.2	5.7
Other Hand Workers	1,360	NA	3.9
Truck Drivers, Heavy - inc. Tractor Trailer	250	29.6	0.7
Truck Drivers, Light - inc. Route and Delivery Workers	20	26.4	0.1
Industrial Truck and Tractor Operators	590	16.0	1.7
Other Material Moving Equipment Operators	360	NA	0.1
Mechanic and Repairer Helpers	40	21.2	0.1
Machine Feeders and Offbearers	460	13.7	1.3
Material Movers, Hand	750	17.4	2.1
Hand Packers and Packagers	950	27.3	2.7
Other Helpers, Laborers, and Material Movers, Hand	2,460	NA	6.1

[1/] Details may not add to total due to rounding or data suppression.

TABLE 8
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Plastic Molding and Casting Machine Operators and Tenders	2,940	8.3
Assemblers, and Fabricators, except Machine, Electrical, Electronic, and Precision	2,020	5.7
Production Supervisors	1,600	4.5
Extruding, Forming, and Pressing Machine Operators and Tenders	1,290	3.7
Crushing, Grinding, and Mixing Machine Operators and Tenders	960	2.7

FIGURE 8
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 31

LEATHER AND LEATHER PRODUCTS

April 1989

This major group includes establishments engaged in tanning, currying, and finishing hides and skins, and establishments manufacturing finished leather, artificial leather products, and some similar products made of other materials. Leather converters are also included.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	3,580	NA	100.0
Managers and Officers	110	NA	3.1
Industrial Production Managers	20	0.0	0.5
General Managers and Top Executives	60	9.1	1.6
Other Managers and Administrators	30	NA	0.9
Professional and Technical Workers	60	NA	1.7
Sales Workers	130	NA	3.6
Sales Representatives, Nonscientific, except Retail	100	8.5	2.8
Other Sales and Related Workers	30	NA	0.9
Clerical Workers	300	NA	8.4
Clerical and Administrative Supervisors	30	3.1	0.9
Secretaries	40	5.9	1.1
Bookkeeping, Accounting, and Auditing Clerks	30	3.6	0.8
Payroll and Timekeeping Clerks	20	0.0	0.6
Production, Planning, and Expediting Clerks	20	0.0	0.4
Traffic, Shipping, and Receiving Clerks	30	6.1	0.9
Other Clerical and Administrative Workers	130	NA	3.7
Service Workers	50	NA	1.4
Janitors and Cleaners	20	0.0	0.6
Other Service Workers	30	NA	0.8
Production and Maintenance Workers	2,920	NA	81.6
Mechanic and Repairer Supervisors	20	0.0	0.4
Production Supervisors	60	0.0	1.8
Production Inspectors, Testers, and Graders	60	7.3	1.7
Other Machinery Maintenance Mechanics	30	NA	0.8
Fabric and Apparel Patternmakers	30	0.0	0.8
Shoe and Leather Workers and Repairers, Precision	530	3.5	14.8
Other Precision Textile and Related Workers	170	NA	4.9
Other Precision Workers	50	NA	1.3
Sewing Machine Operators, Garment	100	8.0	2.9

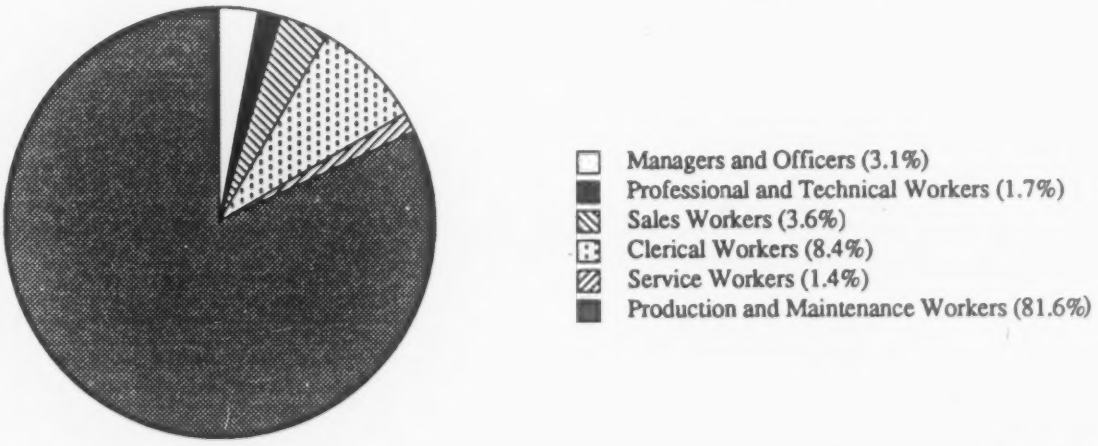
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Sewing Machine Operators, Non-Garment	80	22.7	2.1
Shoe Sewing Machine Operators	680	0.9	19.1
Cutting and Slicing Machine Setters and Set-up Operators	80	6.0	2.4
Cutting and Slicing Machine Operators and Tenders	40	7.4	1.1
Cementing and Gluing Machine Operators and Tenders	50	2.9	1.4
Packaging and Filling Machine Operators and Tenders	20	0.0	0.7
Other Machine Setters and Set-up Operators	20	NA	0.6
Other Machine Operators and Tenders	240	NA	6.6
Sewers, Hand	60	6.9	1.6
Cutters and Trimmers, Hand	50	4.2	1.5
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	210	5.8	5.8
Other Hand Workers	90	NA	2.6
Other Transportation Workers	20	NA	0.6
Material Movers, Hand	30	5.1	1.0
Hand Packers and Packagers	70	2.1	1.9
Other Helpers, Laborers, and Material Movers, Hand	130	NA	3.6

[1/]Details may not add to totals due to rounding or data suppression.

TABLE 9
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Shoe Sewing Machine Operators	680	19.1
Shoe and Leather Workers and Repairers, Precision	530	14.8
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	210	5.8
Sales Representatives, Nonscientific, except Retail	100	2.8
Cutting and Slicing Machine Setters and Set-up Operators	80	2.4

FIGURE 9
PRECENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 32

Except 324

STONE, CLAY, GLASS, AND CONCRETE PRODUCTS

May 1989

Establishments in this group are primarily engaged in manufacturing flat glass and other glass products, brick, structural clay, tile, pottery, vitreous china, concrete, gypsum, and plaster products. It also includes the manufacture of cut stone, stone products, and asbestos.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	21,870	NA	100.0
Managers and Officers	1,020	NA	4.7
Financial Managers	70	6.9	0.3
Personnel and Labor Relations Managers	40	5.9	0.2
Purchasing Managers	20	7.9	0.1
Marketing, Advertising, and Public Relations Managers	50	15.9	0.2
Engineering, Mathematical, and Natural Science Managers	20	15.7	0.1
Industrial Production Managers	250	11.7	1.2
General Managers and Top Executives	470	7.3	2.1
Other Managers and Administrators	100	NA	0.5
Professional and Technical Workers	640	NA	2.9
Accountants and Auditors	50	15.1	0.2
Purchasing Agents and Buyers, except Farm Products	20	13.5	0.1
Other Management Support Workers	80	NA	0.3
Metallurgists and Metallurgical, Ceramic, and Material Engineers	30	19.9	0.1
Industrial Engineers, except Safety	20	15.8	0.1
Mechanical Engineers	40	23.9	0.2
Other Engineers	100	NA	0.4
Drafters	50	30.0	0.2
Other Engineering Technicians and Technologists	90	NA	0.4
Chemical Technicians and Technologists	60	13.7	0.3
Other Science Technicians and Technologists	20	NA	0.1
Computer Programmers	20	11.7	0.1
Other Computer Scientists	20	NA	0.1
Designers	20	6.2	0.1
Other Professional and Technical Workers	20	NA	0.1
Sales Workers	500	NA	2.3
Sales Supervisors	50	12.9	0.2
Sales Representatives, Scientific, except Retail	40	29.1	0.2
Sales Representatives, Nonscientific, except Retail	340	14.7	1.5
Other Sales and Related Workers	70	NA	0.3

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Clerical Workers	1,580	NA	7.2
Clerical and Administrative Supervisors	40	30.0	0.2
Adjustment Clerks	70	25.1	0.3
Secretaries	260	9.0	1.2
Receptionists and Information Clerks	20	17.8	0.1
Personnel Clerks	20	10.6	0.1
Order Clerks	30	24.7	0.1
Bookkeeping, Accounting, and Auditing Clerks	230	11.3	1.0
Payroll and Timekeeping Clerks	50	16.5	0.2
Billing, Cost, and Rate Clerks	50	18.6	0.2
General Office Clerks	200	12.1	0.9
Switchboard Operators	20	9.8	0.1
Dispatchers, except Police, Fire, and Ambulance	210	12.3	0.9
Production, Planning, and Expediting Clerks	30	16.9	0.1
Stock Clerks, Stockroom or Warehouse	50	15.8	0.2
Traffic, Shipping, and Receiving Clerks	220	4.5	1.0
Other Clerical and Administrative Workers	80	NA	0.4
Service Workers	190	NA	0.9
Supervisors	40	29.5	0.2
Guards and Watch Guards	40	8.5	0.2
Janitors and Cleaners	90	14.5	0.4
Other Cleaning and Building Service Workers	20	NA	0.1
Production and Maintenance Workers	17,930	NA	82.0
Mechanic and Repairer Supervisors	40	18.7	0.2
Production Supervisors	670	8.4	3.1
Other Supervisors	180	NA	0.8
Precision Inspectors, Testers, and Graders	70	25.3	0.3
Production Inspectors, Testers, and Graders	540	12.8	2.5
Machinery Maintenance Mechanics	580	6.8	2.7
Machinery Maintenance Workers	40	22.7	0.2
Maintenance Repairers, General Utility	230	13.7	1.1
Automotive Mechanics	30	25.2	0.2
Bus, Truck, and Diesel Mechanics	170	16.9	0.8
Other Mechanics, Installers, and Repairers	80	NA	0.4
Other Construction Trade Workers	440	NA	2.0
Machinists	90	30.0	0.4
Other Precision Metal Workers	110	NA	0.5
Precision Molders, Shapers, Casters, and Carvers, except Jewelry and Foundry	360	21.5	1.7
Other Precision Workers	180	NA	0.8
Drilling and Boring Machine Setters and Set-up Operators, Metal and Plastic	50	20.7	0.2
Grinding, Lapping, and Buffing Machine Tool Setters and Set-up Operators, except Metal and Plastic	60	25.7	0.3
Other Metal and Plastic Machine Setters Set-up Operators	40	NA	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Metal and Plastic Machine Operators and Tenders	130	NA	0.6
Screen Printing Machine Setters and Set-up Operators	40	26.6	0.2
Textile Machine Operators and Tenders	1,180	22.6	5.4
Extruding and Forming Machine Operators and Tenders, Synthetic or Glass	1,330	9.0	6.1
Furnace, Kiln, and Oven Operators and Tenders	490	8.5	2.2
Cutting and Slicing Machine Setters and Set-up Operators	270	16.0	1.3
Cutting and Slicing Machine Operators and Tenders	220	12.4	1.0
Painting and Related Machine Setters and Set-up Operators	90	7.2	0.4
Painting and Related Machine Operators and Tenders	40	19.9	0.2
Cleaning, Washing, and Pickling Equipment Operators and Tenders	120	19.0	0.5
Crushing, Grinding, and Mixing Machine Operators and Tenders	530	20.1	2.4
Extruding, Forming, Pressing, and Compacting Machine Setters and Set-up Operators	350	19.4	1.6
Extruding, Forming, Pressing, and Compacting Machine Operators and Tenders	160	32.2	0.7
Packaging and Filling Machine Operators and Tenders	160	21.8	0.7
Other Machine Setters and Set-up Operators	350	NA	1.6
Other Machine Operators and Tenders	210	NA	1.0
Welders and Cutters	120	26.7	0.5
Cutters and Trimmers, Hand	160	21.9	0.7
Molders and Casters, Hand	150	24.0	0.7
Painting, Coating, and Decorating Workers, Hand	40	11.4	0.2
Grinding and Polishing Workers, Hand	350	11.0	1.6
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	710	20.0	3.2
Other Hand Workers	100	NA	0.4
Truck Drivers, Heavy - inc. Tractor Trailer	2,010	9.1	9.2
Truck Drivers, Light - inc. Delivery and Route Workers	380	31.2	1.8
Crane and Tower Operators	20	33.5	0.1
Industrial Truck and Tractor Operators	680	8.7	3.1
Conveyor Operators and Tenders	140	18.1	0.6
Operating Engineers	20	30.4	0.1
Other Material Moving Equipment Operators	270	NA	1.2
Mechanic and Repairer Helpers	60	29.2	0.3
Machine Feeders and Offbearers	290	22.1	1.3

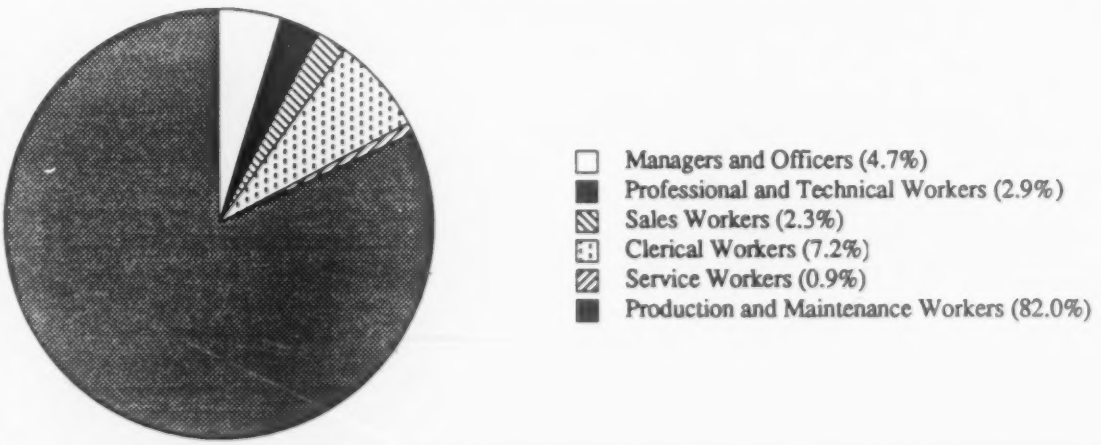
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Material Movers, Hand	320	10.9	1.5
Hand Packers and Packagers	1,510	8.6	6.9
Other Helpers, Laborers, and Material Movers, Hand	970	NA	4.4

[1/]Details may not add to totals due to rounding or data suppression.

TABLE 10
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Truck Drivers, Heavy - inc. Tractor Trailer	2,010	9.2
Hand Packers and Packagers	1,510	6.9
Extruding and Forming Machine Operators and Tenders	1,330	6.1
Textile Machine Operators and Tenders	1,180	5.4
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	710	3.2

FIGURE 10
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 33

Except 333 and 335

PRIMARY METALS INDUSTRIES

April 1989

This major group includes establishments engaged in smelting and refining ferrous and nonferrous metals from ore, pig, or scrap; in manufacturing casting and other basic metal products; and in manufacturing nails, spikes and insulated wire and cable. This major group includes the production of coke.

Occupation	Estimated Employment[1]	Relative Error %	Percent Distribution[1]
Total Employment	3,440	NA	100.0
Managers and Officers	250	NA	7.4
Industrial Production Managers	60	19.4	1.6
General Managers and Top Executives	140	12.3	4.1
Other Managers and Administrators	50	NA	1.3
Professional and Technical Workers	90	NA	2.6
Other Management Support Workers	20	NA	0.6
Other Engineers	30	NA	0.8
Other Professional and Technical Workers	40	NA	0.1
Sales Workers	60	NA	1.7
Sales Representatives, Nonscientific, except Retail	40	24.7	1.0
Other Sales and Related Workers	20	NA	0.7
Clerical Workers	320	NA	9.4
Secretaries	50	14.6	1.4
Bookkeeping, Accounting, and Auditing Clerks	40	18.5	1.1
General Office Clerks	30	12.9	1.0
Traffic, Shipping, and Receiving Clerks	90	12.7	2.6
Other Material Recording and Related Workers	30	NA	0.2
Other Clerical Workers	80	NA	2.2
Service Workers	50	NA	1.5
Janitors and Cleaners	30	14.6	0.8
Other Cleaning and Building Service Workers	20	NA	0.6
Production and Maintenance Workers	2,670	NA	77.6
Production Supervisors	160	6.4	4.5
Precision Inspectors, Testers, and Graders	20	25.8	0.6
Production Inspectors, Testers, and Graders	60	15.6	1.7
Machinery Maintenance Mechanics	80	19.2	2.2
Maintenance Repairers, General Utility	130	9.3	3.8

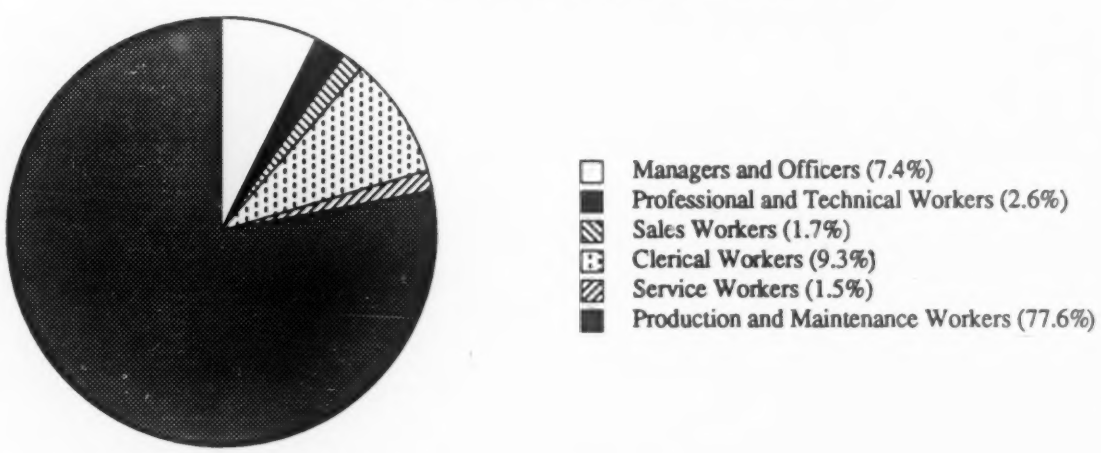
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Mechanics, Installers, and Repairers	20	NA	0.7
Tool and Die Makers	30	24.7	0.8
Machinists	80	13.4	2.2
Pattern and Model Makers, Wood	20	11.8	0.7
Other Precision Woodworkers	20	NA	0.7
Precision Foundry Mold and Core Makers	160	16.5	4.8
Grinding, Lapping, and Buffing Machine Tool Setters and Set-up Operators	20	19.4	0.6
Machine Tool Cutting Operators and Tenders, Metal and Plastic	70	31.9	2.1
Metal Molding, Coremaking, and Casting Machine Setters and Set-up Operators	90	18.3	2.5
Metal Molding, Coremaking, and Casting Machine Operators and Tenders	90	21.5	2.6
Foundry Mold Assembly and Shakeout Workers	90	18.8	2.7
Heat Treating, Annealing, and Tampering Machine Operators and Tenders, Metal and Plastic	110	33.2	3.1
Furnace, Kiln, and Oven Operators and Tenders	100	12.7	2.8
Other Metal and Plastic Working Machine Operators and Tenders	160	NA	4.8
Crushing, Grinding, and Mixing Machine Operators and Tenders	80	23.4	2.4
Other Machine Setters and Set-up Operators	300	NA	8.6
Other Machine Operators and Tenders	50	NA	1.4
Welders and Cutters	50	31.8	1.6
Metal Pourers and Casters	120	11.4	3.4
Grinding and Polishing Workers, Hand	120	15.7	3.5
Other Hand Workers	210	NA	6.0
Truck Drivers, Heavy - inc. Tractor Trailer	30	24.4	0.9
Industrial Truck and Tractor Operators	30	9.4	0.9
Other Material Moving Equipment Operators	60	NA	1.6
Material Movers, Hand	30	8.0	1.0
Other Helpers, Laborers, and Material Movers, Hand	80	NA	2.3

[1/]Details may not add to totals due to rounding or data suppression.

TABLE 11
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Precision Foundry Mold and Core Makers	160	4.8
Production Supervisors	160	4.5
General Managers and Top Executives	140	4.1
Maintenance Repairers, General Utility	130	3.8
Metal Pourers and Casters	120	3.4

FIGURE 11
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 34

Except 343 and 346

FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT

June 1989

This group includes establishments engaged primarily in fabricating ferrous and nonferrous products such as cans, tinware, tools, cutlery, hardware, fabricated structural metal products, and a variety of metal and wire products not elsewhere classified.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	23,880	NA	100.0
Managers and Officers	1,400	NA	6.0
Financial Managers	160	9.3	0.7
Personnel and Labor Relations Managers	40	6.5	0.2
Purchasing Managers	50	12.8	0.2
Marketing, Advertising, and Public Relations Managers	60	17.3	0.3
Administrative Service Managers	20	30.0	0.1
Engineering, Mathematical, and Natural Science Managers	90	11.1	0.4
Industrial Production Managers	300	6.8	1.2
General Managers and Top Executives	520	10.9	2.2
Other Managers and Administrators	160	NA	0.7
Professional and Technical Workers	1,590	NA	6.7
Accountants and Auditors	100	11.3	0.4
Other Financial Specialists	30	NA	0.1
Purchasing Agents and Buyers, except Farm Products	160	10.5	0.7
Personnel and Labor Relations Specialists	30	22.3	0.1
Cost Estimators	130	13.7	0.5
Other Management Support Workers	50	NA	0.2
Civil Engineers, Including Traffic	20	26.5	0.1
Industrial Engineers, except Safety	90	21.7	0.4
Mechanical Engineers	180	15.0	0.7
Other Engineers	50	NA	0.2
Electrical and Electronic Engineering Technicians and Technologists	20	29.8	0.1
Industrial Engineering Technicians and Technologists	30	9.8	0.1
Drafters	440	13.7	1.9
Other Engineering Technicians and Technologists	40	NA	0.2
Systems Analysts, EDP	50	22.2	0.2
Computer Programmers	20	29.5	0.1
Other Computer Scientists	30	NA	0.1
Designers	120	4.0	0.5
Sales Workers	540	NA	2.3
Sales Supervisors	90	33.7	0.4
Sales Engineers	30	20.3	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Sales Representatives, Nonscientific, except Retail	300	16.4	1.2
Other Sales and Related Workers	120	NA	0.5
Clerical Workers	2,140	NA	9.0
Clerical and Administrative Supervisors	100	14.4	0.4
Adjustment Clerks	80	23.0	0.3
Secretaries	310	15.5	1.3
Receptionists and Information Clerks	50	15.8	0.2
Typists	30	25.5	0.1
Personnel Clerks	40	13.2	0.2
File Clerks	20	23.5	0.1
Order Clerks	70	17.2	0.3
Procurement Clerks	30	15.6	0.1
Bookkeeping, Accounting, and Auditing Clerks	270	10.9	1.1
Payroll and Timekeeping Clerks	40	11.8	0.2
Billing, Cost, and Rate Clerks	50	20.3	0.2
General Office Clerks	240	17.4	1.0
Computer Operators	40	14.2	0.2
Data Entry Keyers	50	19.0	0.2
Switchboard Operators	40	12.9	0.2
Production, Planning, and Expediting Clerks	170	9.1	0.7
Stock Clerks, Stockroom or Warehouse	130	16.3	0.5
Traffic, Shipping, and Receiving Clerks	330	11.5	1.4
Other Material Recording and Related Workers	30	NA	0.1
Other Clerical and Administrative Workers	20	NA	0.1
Service Workers	300	NA	1.3
Service Supervisors	60	25.3	0.3
Guards and Watch Guards	60	20.4	0.2
Janitors and Cleaners	160	14.5	0.7
Other Service Workers	20	NA	0.1
Production and Maintenance Workers	17,890	NA	74.9
Mechanic and Repairer Supervisors	50	23.5	0.2
Production Supervisors	740	7.3	3.1
Transportation Supervisors	40	16.4	0.1
Laborer Supervisors	50	24.9	0.2
Other Supervisors	70	NA	0.3
Precision Inspectors, Testers, and Graders	150	18.7	0.6
Production Inspectors, Tester, and Graders	380	10.1	1.6
Machinery Maintenance Mechanics	290	10.1	1.2
Machinery Maintenance Workers	50	22.2	0.2
Maintenance Repairers, General Utility	170	15.9	0.7
Other Mechanics, Installers, and Repairers	70	NA	0.3
Electricians	60	14.6	0.3
Other Construction and Extractive Workers	150	NA	0.6

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Tool and Die Makers	270	12.0	1.1
Machinists	700	17.9	2.9
Precision Grinders	100	33.5	0.4
Precision Layout Workers, Metal	100	34.7	0.4
Sheet Metal Workers	570	30.8	2.4
Other Precision Workers	70	NA	0.3
Sawing Machine Setters and Set-up Operators, Metal and Plastic	160	29.3	0.6
Lathe Machine Setters and Set-up Operators, Metal and Plastic	280	13.5	1.2
Drilling Machine Setters and Set-up Operators, Metal and Plastic	160	16.7	0.6
Milling Machine Setters and Set-up Operators, Metal and Plastic	110	27.0	0.5
Grinding, Lapping, and Buffing Machine Setters and Set-up Operators, Metal and Plastic	200	23.3	0.8
Machine Tool Cutting Operators and Tenders, Metal and Plastic	570	17.2	2.4
Punching Machine Setters and Set-up Operators, Metal and Plastic	320	19.9	1.3
Press and Press Brake Machine Setters and Set-up Operators, Metal and Plastic	250	18.3	1.0
Shear and Slitter Machine Setters and Set-up Operators, Metal and Plastic	100	20.6	0.4
Extruding and Drawing Machine Setters and Set-up Operators, Metal and Plastic	50	16.1	0.2
Forging Machine Setters and Set-up Operators, Metal and Plastic	80	23.2	0.3
Machine Forming Operators and Tenders, Metal and Plastic	860	15.0	3.6
Numerical Control Machine Tool Operators and Tenders, Metal and Plastic	100	20.7	0.4
Combination Machine Setters and Set-up Operators, Metal and Plastic	140	16.1	0.6
Soldering and Brazing Machine Setters and Set-up Operators	20	29.7	0.1
Metal Fabricators, Structural Metal Products	920	21.4	3.9
Electrolytic Plating and Coating Machine Setters and Set-up Operators, Metal and Plastic	260	20.1	1.1
Electrolytic Plating and Coating Machine Operators and Tenders, Metal and Plastic	310	9.6	1.3
Heat Treating, Annealing, and Tampering Machine Operators and Tenders, Metal and Plastic	70	24.9	0.3
Furnace Operators and Tenders	60	23.3	0.3
Other Metal and Plastic Machine Setters and Set-up Operators	590	NA	2.4

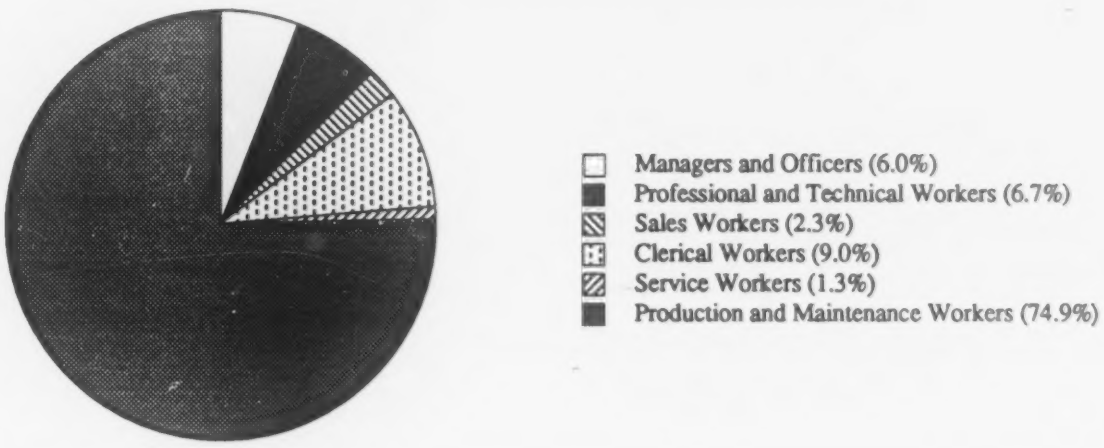
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Metal and Plastic Machine Operators and Tenders	480	NA	2.0
Other Printing and Related Machine Setters and Set-up Operators	40	NA	0.1
Painting and Related Machine Setters and Set-up Operators	100	17.0	0.4
Painting and Related Machine Operators and Tenders	310	18.2	1.3
Cleaning, Washing, and Pickling Equipment Operators and Tenders	100	33.6	0.4
Crushing, Grinding, Mixing, and Blending Machine Operators and Tenders	90	19.0	0.4
Packaging and Filling Machine Operators and Tenders	70	22.5	0.3
Other Machine Setters and Set-up Operators	120	NA	0.5
Other Machine Operators and Tenders	460	NA	1.9
Fitters, Structural Metal, Precision	280	29.3	1.2
Other Precision Metal Assemblers	110	NA	0.4
Welders and Cutters	740	21.3	3.1
Grinding and Polishing Workers, Hand	240	19.6	1.0
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	2,550	10.6	10.6
Other Hand Workers	500	NA	2.1
Truck Drivers, Heavy - inc. Tractor Trailer	280	10.6	1.2
Truck Drivers, Light - inc. Delivery and Route Workers	40	19.5	0.2
Crane and Tower Operators	80	18.8	0.3
Industrial and Tractor Operators	350	10.7	1.4
Other Material Moving Equipment Operators	30	NA	0.1
Construction Trades Worker Helpers	100	31.0	0.4
Machine Feeders and Offbearers	140	28.6	0.6
Material Movers, Hand	330	16.3	1.4
Hand Packers and Packagers	250	13.2	1.0
Other Helpers, Laborers, and Material Movers, Hand	410	NA	1.7

[1/]Details may not add to total due to rounding or data suppression.

TABLE 12
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	2,550	10.6
Metal Fabricators, Structural Metal Products	920	3.9
Machine Forming Operators and Tenders, Metal and Plastic	860	3.6
Welders and Cutters	740	3.1
Machinists	700	2.9

FIGURE 12
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 35

INDUSTRIAL AND COMMERCIAL MACHINERY AND COMPUTER EQUIPMENT

June 1989

Establishments in this major group are primarily engaged in manufacturing machinery and equipment, other than electrical equipment and transportation equipment. It includes machinery with built-in or detachable motors and portable tools, both electric and pnuematic-powered. It does not include electrical household appliance or hand tools.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	65,870	NA	100.0
Managers and Officers	4,740	NA	7.2
Financial Managers	320	8.4	0.5
Personnel and Labor Relations Managers	120	6.0	0.2
Purchasing Managers	120	6.8	0.2
Marketing, Advertising, and Public Relations Managers	220	8.9	0.3
Administrative Services Managers	60	14.2	0.1
Engineering, Mathematical, and Natural Science Managers	1,300	2.4	2.0
Industrial Production Managers	610	6.6	0.9
General Managers and Top Executives	1,700	3.6	2.6
Other Managers and Administrators	290	NA	0.4
Professional and Technical Workers	14,550	NA	22.1
Accountants and Auditors	220	8.6	0.3
Other Financial Specialists	640	NA	1.0
Purchasing Agents and Buyers, except Farm Products	520	4.8	0.8
Personnel and Public Relations Specialists	190	4.6	0.3
Cost Estimators	200	16.9	0.3
Other Management Support Workers	610	NA	0.9
Electrical and Electronic Engineers	260	29.4	0.4
Industrial Engineers, except Safety	400	10.1	0.6
Mechanical Engineers	800	8.7	1.2
Other Engineers	2,740	NA	4.2
Electrical and Electronic Engineering Technicians and Technologists	880	8.9	1.3
Industrial Engineering Technicians and Technologists	50	12.3	0.1
Mechanical Engineering Technicians and Technologists	160	11.4	0.2
Drafters	520	9.5	0.8
Other Engineering Technicians and Technologists	160	NA	0.3
Systems Analysts, EDP	760	5.2	1.2
Computer Programmers	3,750	6.8	5.7
Programmers, Numerical, Tool, and Process Control	110	17.2	0.2
Other Computer Scientists	110	NA	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Health Practitioners, Technologists, Technicians, and Related Health Occupations	40	7.0	0.1
Technical Writers	380	3.1	0.6
Designers	100	26.7	0.2
Other Professional and Technical Workers	950	NA	1.4
Sales Workers	1,050	NA	1.6
Sales Supervisors	140	8.3	0.2
Sales Engineers	140	19.9	0.2
Sales Representatives, Scientific, except Retail	180	20.2	0.3
Sales Representative, Nonscientific, except Retail	510	12.4	0.8
Other Sales and Related Workers	80	NA	0.1
Clerical Workers	8,040	NA	12.2
Clerical and Administrative Supervisors	480	7.2	0.7
Adjustment Clerks	170	9.6	0.3
Secretaries	1,260	4.3	1.9
Receptionists and Information Clerks	70	8.7	0.1
Typists	60	10.6	0.1
Typists, Word Processing	40	23.9	0.1
Personnel Clerks	50	6.9	0.1
Order Clerks	230	12.1	0.3
Procurement Clerks	70	7.6	0.1
Bookkeeping, Accounting, and Auditing Clerks	500	7.5	0.8
Payroll and Timekeeping Clerks	100	6.9	0.1
Billing, Cost, and Rate Clerks	90	14.9	0.1
General Office Clerks	1,020	6.3	1.5
Computer Operators	460	5.5	0.7
Data Entry Keyers	120	12.8	0.2
Switchboard Operators	60	10.2	0.1
Production, Planning, and Expediting Clerks	1,300	5.5	2.0
Weighers, Measurers, Checkers, and Samplers	40	19.7	0.1
Stock Clerks, Stockroom or Warehouse	620	8.6	0.9
Traffic, Shipping, and Receiving Clerks	920	9.4	1.4
Other Material Recording and Related Workers	160	NA	0.2
Other Clerical and Administrative Workers	220	NA	0.3
Service Workers	340	NA	0.5
Service Supervisors	60	20.7	0.1
Guards and Watch Guards	40	23.1	0.1
Janitors and Cleaners	240	10.5	0.4
Production and Maintenance Workers	37,150	NA	56.4
Mechanic and Repairer Supervisors	100	10.6	0.2
Production Supervisors	1,830	4.9	2.8
Transportation Supervisors	40	12.7	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Laborer Supervisors	60	12.2	0.1
Other Supervisors	90	NA	0.1
Precision Inspectors, Testers, and Graders	790	12.6	1.2
Production Inspectors, Testers, and Graders	770	6.4	1.2
Machinery Maintenance Mechanics	710	9.5	1.1
Millwrights	110	32.3	0.2
Machinery Maintenance Workers	30	15.8	0.1
Maintenance Repairers, General Utility	530	6.8	0.8
Heating, Air Conditioning, and Refrigeration Mechanics	50	12.8	0.1
Precision Instruments Repairers	40	14.4	0.1
Other Mechanics, Installers, and Repairers	280	NA	0.4
Electricians	120	16.2	0.2
Painters and Paperhangers	80	14.2	0.1
Tool and Die Makers	1,230	15.4	1.9
Machinists	2,600	8.3	3.9
Tool Grinders, Filers, Sharpeners, and Other Precision Grinders	340	24.9	0.5
Precision Layout Workers	70	34.1	0.1
Sheet Metal Workers	780	15.4	1.2
Other Precision Metal Workers	130	NA	0.2
Pattern and Model Makers, Wood	50	28.9	0.1
Other Precision Workers	100	NA	0.2
Sawing Machine Setters and Set-up Operators, Metal and Plastic	200	12.7	0.3
Lathe and Turning Machine Setters and Set-up Operators, Metal and Plastic	1,060	10.3	1.6
Drilling and Boring Machine Setters and Set-up Operators, Metal and Plastic	560	13.7	0.9
Milling and Planing Machine Setters and Set-up Operators, Metal and Plastic	590	21.1	0.9
Grinding, Lapping, and Buffing Machine Setters and Set-up Operators, Metal and Plastic	500	15.3	0.8
Machine Tool Cutting Operators and Tenders, Metal and Plastic	2,040	13.3	3.1
Punching Machine Setters and Set-up Operators, Metal and Plastic	270	20.7	0.4
Press and Press Brake Machine Setters and Set-up Operators, Metal and Plastic	210	24.4	0.3
Shear and Slitter Machine Setters and Set-up Operators, Metal and Plastic	70	30.7	0.1
Machine Forming Operators and Tenders, Metal and Plastic	260	18.4	0.4
Numerical Control Machine Operators and Tenders, Metal and Plastic	1,400	12.2	2.1
Combination Machine Setters and Set-up Operators, Metal and Plastic	310	11.6	0.5

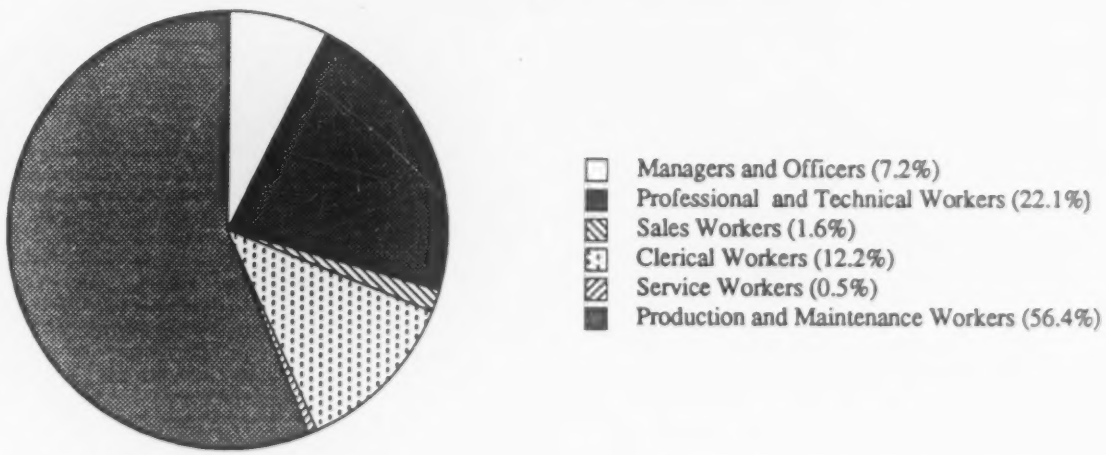
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Combination Machine Operators and Tenders, Metal and Plastic	400	35.0	0.6
Welding Machine Setters and Set-up Operators	300	17.5	0.5
Welding Machine Operators and Tenders	290	15.0	0.4
Soldering and Brazing Machine Setters and Set-up Operators	50	18.9	0.1
Metal Molding, Coremaking, and Casting Machine Setters and Set-up Operators	70	29.9	0.1
Metal Molding, Coremaking, and Casting Machine Operators and Tenders	100	32.4	0.2
Heat Treating, Annealing, and Tampering Machine Operators and Tenders, Metal and Plastic	120	26.2	0.2
Other Metal and Plastic Machine Setters and Setup Operators	410	NA	0.6
Other Metal and Plastic Machine Operators and Tenders	360	NA	0.6
Electronic Semiconductor Processors	40	32.3	0.1
Painting and Related Machine Setters and Set-up Operators	130	23.7	0.2
Painting and Related Machine Operators and Tenders	180	12.8	0.3
Other Machine Setters and Set-up Operators	420	NA	0.6
Other Machine Operators and Tenders	560	NA	0.9
Precision Machine Assemblers	1,140	17.5	1.7
Precision Electrical and Electronic Equipment Assemblers	2,870	3.0	4.4
Other Precision Metal Assemblers	670	NA	6.0
Machine Assemblers	640	12.2	1.0
Electrical and Electronic Assemblers	300	13.5	0.5
Welders and Cutters	1,270	8.6	1.9
Grinding and Polishing Workers, Hand	480	28.9	0.7
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	5,470	7.4	8.3
Other Hand Workers	730	NA	1.1
Truck Drivers, Heavy - inc. Tractor Trailer	60	13.0	0.1
Truck Drivers, Light - inc. Delivery and Route Workers	60	16.0	0.1
Industrial Truck and Tractor Operators	450	9.8	0.7
Other Material Moving Equipment Operators	60	NA	0.1
Mechanic and Repairer Helpers	80	31.4	0.1
Material Movers, Hand	340	8.9	0.5
Hand Packers and Packagers	260	16.6	0.4
Other Helpers, Laborers, and Material Movers, Hand	440	NA	0.7

[1/]Details may not add to totals due to rounding or data suppression.

TABLE 13
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	5,470	8.3
Computer Programmers	3,750	5.7
Electrical and Electronic Equipment Assemblers, Precision	2,870	4.4
Machinists	2,600	3.9
Machine Tool Cutting Operators and Tenders, Metal and Plastic	2,040	3.1

FIGURE 13
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 36

Except 365

ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS, EXCEPT COMPUTER EQUIPMENT

June 1989

Establishments in this major group are primarily engaged in manufacturing machinery apparatus and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. This group includes the manufacture of household appliances.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	54,120	NA	100.0
Managers and Officers	3,460	NA	6.4
Financial Managers	190	8.3	0.3
Personnel and Labor Relations Managers	130	6.4	0.2
Purchasing Managers	120	6.7	0.2
Marketing, Advertising, and Public Relations Managers	340	12.8	0.6
Administrative Services Managers	120	10.7	0.2
Engineering, Mathematical, and Natural Science Managers	380	9.4	0.7
Industrial Production Managers	730	9.1	1.3
General Managers and Top Executives	700	7.5	1.3
Other Managers and Administrators	750	NA	1.4
Professional and Technical Workers	10,680	NA	19.7
Accountants and Auditors	240	10.1	0.5
Budget Analysts	50	13.9	0.1
Other Financial Specialists	150	NA	0.3
Purchasing Agents and Buyers, except Farm Products	320	5.7	0.6
Personnel and Labor Relations Specialists	250	15.9	0.5
Cost Estimators	50	11.0	0.1
Other Management Support Workers	770	NA	1.4
Chemical Engineers	40	20.1	0.1
Civil Engineers, Including Traffic	60	32.0	0.1
Electrical and Electronic Engineers	1,630	12.5	3.0
Computer Engineers	190	14.2	0.4
Industrial Engineers, except Safety	560	21.2	1.0
Mechanical Engineers	1,200	13.8	2.2
Other Engineers	530	NA	0.1
Electrical and Electronic Engineering Technicians and Technologists	1,570	11.8	2.9
Industrial Engineering Technicians and Technologists	110	12.0	0.2
Mechanical Engineering Technicians and Technologists	150	25.0	0.3
Drafters	270	13.3	0.5
Other Engineering Technicians and Technologists	410	NA	0.8
Other Science Technicians and Technologists	170	NA	0.3

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Systems Analysts, EDP	140	11.3	0.3
Computer Programmers	200	12.2	0.4
Other Computer Scientists	170	NA	0.3
Health Practitioners and Related Health Occupations	40	9.6	0.1
Other Professional and Technical Workers	1,410	NA	2.6
Sales Workers	810	NA	1.5
Sales Supervisors	220	14.1	0.4
Sales Engineers	180	31.9	0.3
Sales Representatives, Scientific, except Retail	210	16.9	0.4
Sales Representative, Nonscientific, except Retail	110	23.6	0.2
Other Sales and Related Workers	90	NA	0.2
Clerical Workers	4,630	NA	8.6
Clerical and Administrative Supervisors	190	10.8	0.3
Adjustment Clerks	180	7.6	0.3
Secretaries	750	4.8	1.4
Receptionists and Information Clerks	70	9.1	0.1
Typists	120	29.5	0.2
Personnel Clerks	80	9.0	0.1
Order Clerks	60	12.5	0.1
Procurement Clerks	60	16.3	0.1
Bookkeeping, Accounting, and Auditing Clerks	280	7.7	0.5
Payroll and Timekeeping Clerks	100	7.5	0.2
Billing, Cost, and Rate Clerks	90	15.5	0.2
General Office Clerks	320	23.0	0.6
Computer Operators	110	18.2	0.2
Other Office Machine Operators	250	NA	0.5
Switchboard Operators	60	9.0	0.1
Production, Planning, and Expediting Clerks	340	16.6	0.6
Weighers, Measurers, Checkers, and Samplers	50	21.3	0.1
Stock Clerks, Stockroom or Warehouse	740	9.0	1.4
Traffic, Shipping, and Receiving Clerks	610	7.3	1.1
Other Material Recording and Related Workers	80	NA	0.1
Other Clerical and Administrative Workers	90	NA	0.2
Service Workers	290	NA	0.5
Service Supervisors	50	29.4	0.1
Guards and Watch Guards	70	34.2	0.1
Janitors and Cleaners	130	11.8	0.2
Other Service Workers	40	NA	0.1
Production and Maintenance Workers	34,210	NA	63.2
Mechanic and Repairer Supervisors	80	11.5	0.1
Production Supervisors	1,090	5.7	2.0
Laborer Supervisors	90	20.0	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Supervisors	90	NA	0.2
Precision Inspectors, Testers, and Graders	2,110	11.3	3.9
Production Inspectors, Testers, and Graders	1,210	10.0	2.2
Machinery Maintenance Mechanics	830	9.7	1.5
Millwrights	110	34.4	0.2
Machinery Maintenance Workers	30	28.3	0.1
Maintenance Repairers, General Utility	420	15.7	0.8
Electrical Repairers, Industrial Equipment	550	16.4	1.0
Other Mechanics, Installers, and Repairers	160	NA	0.3
Electricians	170	17.8	0.3
Other Construction and Extractive Workers	80	NA	0.1
Tool and Die Makers	330	14.3	0.6
Machinists	430	15.1	0.8
Other Precision Workers	580	NA	1.1
Lathe and Turning Machine Setters and Set-up Operators, Metal and Plastic	100	29.7	0.2
Drilling and Boring Machine Setters and Set-up Operators	50	22.2	0.1
Milling and Planing Machine Setters and Set-up Operators	60	28.2	0.1
Grinding and Buffing Machine Setters and Set-up Operators, Metal and Plastic	120	23.3	0.2
Punching Machine Setters and Set-up Operators, Metal and Plastic	200	14.7	0.4
Press and Press Brake Machine Setters and Set-up Operators	200	23.6	0.4
Shear and Slitter Machine Setters and Set-up Operators, Metal and Plastic	50	23.6	0.1
Machine Forming Operators and Tenders, Metal and Plastic	240	24.4	0.4
Numerical Control Machine Operators and Tenders, Metal and Plastic	130	30.3	0.2
Welding Machine Setters and Set-up Operators, Metal and Plastic	110	27.8	0.2
Welding Machine Operators and Tenders, Metal and Plastic	80	28.8	0.2
Soldering and Brazing Machine Operators and Tenders, Metal and Plastic	50	34.6	0.1
Plastic Molding and Casting Machine Setters and Set-up Operators	180	18.7	0.3
Plastic Molding and Casting Machine Operators and Tenders	700	13.2	1.3
Other Metal and Plastic Machine Setters and Set-up Operators	340	NA	0.6
Other Metal and Plastic Machine Operators and Tenders	260	NA	0.5
Other Printing and Related Machine Operators and Tenders	50	NA	0.1
Electronic Semiconductor Processors	460	30.8	0.9

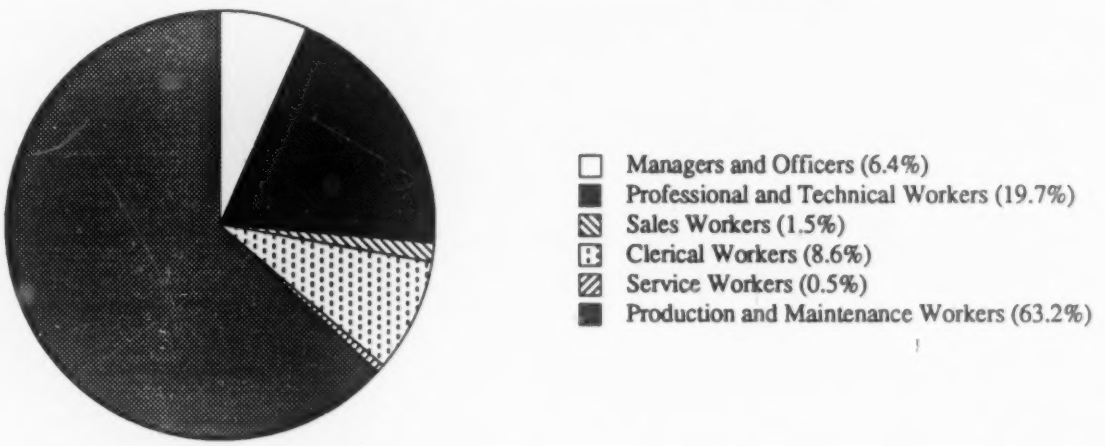
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Painting and Related Machine Setters and Set-up Operators	80	18.4	0.2
Crushing, Grinding, Mixing, and Blending Machine Operators and Tenders	60	28.7	0.1
Packaging and Filling Machine Operators and Tenders	170	20.5	0.3
Other Machine Setters and Set-up Operators	430	NA	0.8
Other Machine Operators and Tenders	1,920	NA	3.5
Precision Electromechanical Equipment Assemblers	510	25.4	0.9
Precision Electrical and Electronic Equipment Assemblers	2,800	14.3	5.2
Other Precision Metal Assemblers	1,410	NA	2.6
Machine Assemblers	100	32.6	0.2
Electrical and Electronic Assemblers	7,020	10.8	13.0
Coil Winders, Tapers, and Finishers	530	19.9	1.0
Welders and Cutters	90	28.5	0.2
Solderers and Brazers	150	22.8	0.3
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	5,160	10.9	9.5
Other Hand Workers	360	NA	0.7
Truck Drivers, Heavy - inc. Tractor Trailer	40	28.0	0.1
Other Transportation Workers	30	NA	0.1
Industrial Truck and Tractor Operators	320	27.8	0.6
Material Movers, Hand	510	22.2	0.9
Hand Packers and Packagers	410	17.5	0.6
Other Helpers, Laborers, and Material Movers, Hand	370	NA	0.7

[1/]Details may not add to total due to rounding or data suppression.

TABLE 14
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Electrical and Electronic Assemblers	7,020	13.0
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	5,160	9.5
Precision Electrical and Electronic Equipment Assemblers	2,800	5.2
Precision Inspectors, Testers, and Graders	2,110	3.9
Electrical and Electronic Engineers	1,630	3.0

FIGURE 14
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 37

TRANSPORTATION EQUIPMENT

June 1989

This major group includes establishments primarily engaged in manufacturing equipment for transportation via land, water, and air. It includes the manufacturing of motor vehicles, aircraft, missiles, boats, railroad equipment, and other transportation equipment.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	27,700	NA	100.0
Managers and Officers	960	NA	3.5
Financial Managers	60	9.6	0.2
Personnel and Labor Relations Managers	80	13.6	0.3
Purchasing Managers	50	10.4	0.2
Marketing, Advertising, and Public Relations Managers	20	10.2	0.1
Engineering, Mathematical, and Natural Science Managers	60	9.6	0.2
Industrial Production Managers	250	11.0	0.9
General Managers and Top Executives	360	8.3	1.3
Other Managers and Administrators	80	NA	0.3
Professional and Technical Workers	1,230	NA	4.4
Accountants and Auditors	60	11.6	0.2
Budget Analysts	20	16.6	0.1
Purchasing Agents and Buyers, except Farm	120	8.5	0.4
Personnel and Labor Relations Specialists	50	9.8	0.2
Cost Estimators	30	32.5	0.1
Other Management and Support Workers	30	NA	0.1
Metallurgists and Metallurgical Ceramics and Material Engineers	20	33.1	0.1
Electrical and Electronic Engineers	40	30.6	0.1
Industrial Engineers, except Safety	110	7.6	0.4
Mechanical Engineers	250	8.5	0.9
Other Engineers	60	NA	0.2
Electrical and Electronic Engineering Technicians and Technologists	80	26.1	0.3
Industrial Engineering Technicians and Technologists	40	17.9	0.2
Mechanical Engineering Technicians and Technologists	60	16.6	0.2
Drafters	120	16.5	0.4
Other Engineering Technicians and Technologists	20	NA	0.1
Computer Programmers	40	18.4	0.1
Other Mathematical Scientists	40	NA	0.1
Health Practitioners and Related Health Occupations	20	7.2	0.1
Other Professional and Technical Workers	20	NA	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Sales Workers	630	NA	2.3
Sales Supervisors	50	14.7	0.2
Sales Representatives, Nonscientific, except Retail	200	19.7	0.7
Other Sales and Related Workers	380	NA	1.4
Clerical Workers	1,900	NA	6.9
Clerical and Administrative Supervisors	100	14.4	0.4
Adjustment Clerks	30	28.5	0.1
Secretaries	220	8.0	0.8
Receptionists and Information Clerks	30	18.8	0.1
Personnel Clerks	70	10.1	0.3
Order Clerks	40	21.6	0.2
Procurement Clerks	30	24.0	0.1
Bookkeeping, Accounting, and Auditing Clerks	250	8.2	0.9
Payroll and Timekeeping Clerks	50	11.6	0.2
General Office Clerks	140	11.9	0.5
Computer Operators	30	11.7	0.1
Data Entry Operators	60	26.0	0.2
Switchboard Operators	30	18.8	0.1
Production, Planning, and Expediting Clerks	130	11.6	0.5
Stock Clerks, Stockroom or Warehouse	170	8.6	0.6
Traffic, Shipping, and Receiving Clerks	350	12.0	1.3
Other Material Recording and Related Workers	40	NA	0.2
Other Clerical and Administrative Workers	130	NA	0.5
Service Workers	260	NA	0.9
Service Supervisors	30	10.2	0.1
Guards and Watch Guards	60	16.8	0.2
Janitors and Cleaners	170	14.3	0.6
Production and Maintenance Workers	22,730	NA	82.1
Mechanic and Repairer Supervisors	130	18.2	0.5
Production Supervisors	770	5.5	2.8
Other Supervisors	80	NA	0.3
Precision Inspectors, Testers, and Graders	240	12.0	0.8
Production Inspectors, Testers, and Graders	520	7.6	1.9
Machinery Maintenance Mechanics	490	9.6	1.8
Millwrights	40	30.4	0.2
Machinery Maintenance Workers	20	9.8	0.1
Maintenance Repairers, General Utility	300	19.2	1.1
Electronic Repairers, Industrial Equipment	20	11.5	0.1
Electrical Installers and Repairers, Transportation Equipment	180	6.7	0.6
Other Mechanics, Installers, and Repairers	360	NA	1.3
Carpenters	330	23.6	1.2
Electricians	140	14.9	0.5
Plumbers and Pipefitters	30	17.4	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Construction and Extractive Workers	60	NA	0.2
Tool and Die Makers	280	11.4	1.0
Machinists	660	19.4	2.4
Tool Grinders, Filers, Sharpeners, and Other Precision Grinders	50	6.8	0.2
Precision Layout Workers, Metal	20	30.3	0.1
Other Precision Metal Workers	160	NA	0.6
Pattern and Model Makers, Wood	90	7.3	0.3
Other Precision Woodworkers	80	NA	0.3
Other Precision Workers	120	NA	0.4
Sawing Machine Setters and Set-up Operators, Metal and Plastic	80	13.4	0.3
Lathe Turning Machine Setters and Set-up Operators, Metal and Plastic	610	27.8	2.2
Drilling and Boring Machine Setters and Set-up Operators, Metal and Plastic	50	15.0	0.2
Grinding and Buffing Machine Setters and Set-up Operators, Metal and Plastic	270	28.1	1.0
Machine Tool Cutting Operators and Tenders, Metal and Plastic	580	11.5	2.1
Punching Machine Setters and Set-up Operators, Metal and Plastic	190	4.8	0.7
Press and Press Brake Machine Setters and Set-up Operators, Metal and Plastic	190	25.3	0.7
Machine Forming Operators and Tenders, Metal and Plastic	1,450	22.5	5.2
Numerical Control Machine Operators and Tenders, Metal and Plastic	220	21.0	0.8
Combination Machine Tool Operators and Tenders, Metal and Plastic	50	26.7	0.2
Plastic Molding and Casting Machine Setters and Set-up Operators, Metal and Plastic	40	30.1	0.1
Heat Testing Machine Operators and Tenders, Metal and Plastic	100	25.5	0.4
Other Metal and Plastic Machine Setters and Set-up Operators	1,090	NA	4.9
Other Metal and Plastic Machine Operators and Tenders	620	NA	2.2
Sewing Machine Operators, Non-Garment	70	18.6	0.3
Painters, Transportation Equipment	260	20.3	0.9
Painting and Related Machine Operators and Tenders	190	29.0	0.7
Other Machine Setters and Set-up Operators	190	NA	0.7
Other Machine Operators and Tenders	470	NA	1.7
Precision Machine Assemblers	390	26.9	1.4
Other Precision Metal Assemblers	140	NA	0.5
Welders and Cutters	470	32.9	1.7
Grinding and Polishing Workers, Hand	380	25.0	1.4

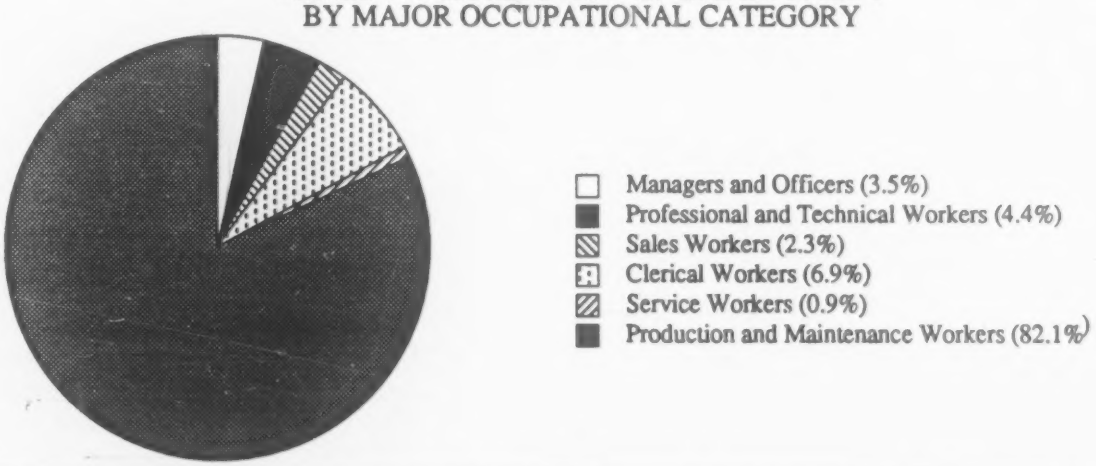
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	4,840	11.2	17.5
Other Hand Workers	3,030	NA	10.9
Truck Drivers, Heavy - inc. Tractor Trailer	80	13.4	0.3
Industrial Truck and Tractor Operators	710	34.2	2.6
Other Material Moving Equipment	80	NA	0.3
Construction Trades and Extractive Workers	20	14.9	0.1
Material Movers, Hand	180	14.8	0.7
Other Helpers, Laborers, and Material Movers, Hand	520	NA	2.0

[1/]Details may not add to total due to rounding or data suppression.

TABLE 15
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	4,840	17.5
Machine Forming Operators and Tenders Metal and Plastic	1,450	5.2
Production Supervisors	770	2.8
Industrial Truck and Tractor Operators	710	2.6
Machinists	660	2.4

FIGURE 15
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 38

MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS; WATCHES AND CLOCKS

June 1989

This major group includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; hydrological, hydrographic, meterological, and geophysical equipment; search, detection, navigation, and guidance systems and equipment; surgical, medical, and dental instruments, equipment, and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	13,930	NA	100.0
Managers and Officers	740	NA	5.3
Financial Managers	70	10.6	0.5
Personnel and Labor Relations Managers	40	5.5	0.3
Purchasing Managers	30	14.1	0.3
Marketing, Advertising, and Public Relations Managers	60	16.2	0.4
Engineering, Mathematical, and Natural Science Managers	60	10.4	0.5
Industrial Production Managers	140	21.3	1.0
General Managers and Top Executives	210	9.5	1.5
Other Managers and Administrators	130	NA	0.9
Professional and Technical Workers	1,300	NA	9.3
Accountants and Auditors	40	12.9	0.3
Purchasing Agents and Buyers, except Farm Products	90	8.1	0.7
Personnel and Labor Relations Specialists	30	12.3	0.2
Other Management Support Workers	80	NA	0.6
Electrical and Electronic Engineers	100	31.9	0.7
Computer Engineers	20	27.8	0.2
Industrial Engineers, except Safety	60	17.7	0.5
Mechanical Engineers	130	7.2	0.9
Other Engineers	60	NA	0.4
Electrical and Electronic Engineering Technicians and Technologists	120	15.8	0.8
Industrial Engineering Technicians and Technologists	20	5.3	0.1
Mechanical Engineering Technicians and Technologists	60	33.4	0.5
Other Engineering Technicians and Technologists	200	NA	1.5
Chemists	50	29.1	0.3
Chemical Technicians and Technologists, except Health	20	28.5	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Other Science Technicians and Technologists	80	NA	0.6
Systems Analysts, EDP	50	23.6	0.4
Computer Programmers	20	20.7	0.1
Other Computer Scientists	20	NA	0.1
Other Professional and Technical Workers	50	NA	0.3
Sales Workers	260	NA	1.9
Sales Representatives, Scientific, except Retail	140	22.8	1.0
Sales Representative, Nonscientific, except Retail	30	7.4	0.2
Other Sales and Related Workers	90	NA	0.6
Clerical Workers	1,510	NA	10.8
Clerical and Administrative Workers	40	21.0	0.3
Adjustment Clerks	70	12.1	0.5
Secretaries	220	10.2	1.6
Receptionist and Information Clerks	40	7.1	0.3
Typists	30	31.1	0.2
Typist, Word Processing	30	20.8	0.2
Personnel Clerks	40	8.3	0.3
Order Clerks	40	15.4	0.3
Procurement Clerks	40	10.0	0.3
Bookkeeping, Accounting, and Auditing Clerks	130	8.6	1.0
Payroll and Timekeeping Clerks	50	7.5	0.3
General Office Clerks	100	14.5	0.9
Computer Operators	30	16.3	0.2
Data Entry Keyers	20	9.8	0.2
Switchboard Operators	20	6.7	0.1
Production, Planning, and Expediting Clerks	150	9.3	1.0
Traffic, Shipping, and Receiving Clerks	150	13.1	1.1
Other Material Recording and Related Workers	280	NA	2.0
Other Clerical and Administrative Workers	50	NA	0.3
Service Workers	140	NA	1.0
Guards and Watch Guards	20	5.3	0.1
Janitors and Cleaners	100	8.7	0.7
Other Service Workers	20	NA	0.1
Production and Maintenance Workers	9,960	NA	71.5
Mechanic and Repairer Supervisors	50	18.7	0.4
Production Supervisors	420	5.1	3.0
Laborer Supervisors	30	22.1	0.2
Other Supervisors	30	NA	0.2
Production Inspectors, Testers, and Graders	380	13.7	2.8
Machinery Maintenance Mechanics	140	15.1	1.0
Maintenance Repairers, General Utility	110	9.3	0.8
Other Mechanics, Installers, and Repairers	140	NA	1.0

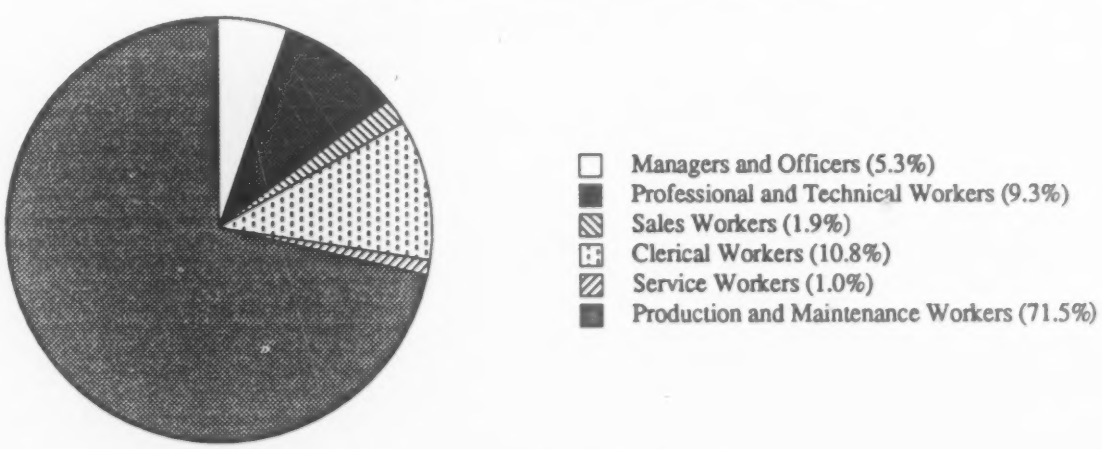
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Electricians	20	5.6	0.1
Tool and Die Makers	110	29.1	0.8
Other Precision Workers	1,090	NA	7.8
Lathe and Turning Machine Tool Setters and Set-up Operators, Metal and Plastic	50	29.6	0.4
Machine Tool Cutting, Operators and Tenders, Metal and Plastic	210	31.5	1.5
Numerical Control Machine Tool Operators and Tenders, Metal and Plastic	90	16.1	0.7
Other Metal and Plastic Machine Setters and Set-up Operators	300	NA	2.1
Other Metal and Plastic Machine Operators and Tenders	320	NA	2.3
Painting and Related Machine Operators and Tenders	110	20.7	0.8
Packaging and Filling Machine Operators and Tenders	60	30.0	0.4
Other Machine Setters and Set-up Operators	310	NA	2.2
Other Machine Operators and Tenders	1,050	NA	7.5
Precision Electrical and Electronic Equipment Assemblers	150	26.9	1.1
Other Precision Metal Assemblers	480	NA	3.4
Electrical and Electronic Assemblers	290	31.8	2.1
Welders and Cutters	160	30.4	1.2
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	2,160	12.2	15.6
Other Hand Workers	730	NA	5.2
Other Material Moving Equipment Operators	50	NA	0.3
Mechanic and Repairer Helpers	140	38.8	1.0
Machine Feeders and Offbearers	80	19.1	0.5
Material Movers, Hand	250	9.8	1.8
Hand Packers and Packagers	350	14.1	2.5
Other Helpers, Laborers, and Material Movers, Hand	100	NA	0.7

[1/]Details may not add to total due to rounding or data suppression.

TABLE 16
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	2,160	15.6
Production Supervisors	420	3.0
Production Inspectors, Testers, and Graders	380	2.8
Hand Packers and Packagers	350	2.5
Electrical and Electronic Assemblers	290	2.1

FIGURE 16
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 39

MISCELLANEOUS MANUFACTURING INDUSTRIES

June 1989

This major group includes establishments primarily engaged in manufacturing items not classified in any other major group. Included in this group are jewelry, silverware, musical instruments, toys, sporting goods, pens, pencils, novelties, brooms, caskets, and other miscellaneous goods.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	6,910	NA	100.0
Managers and Officers	510	NA	7.4
Engineering, Mathematical, and Natural Science Managers	20	29.5	0.3
Industrial Production Managers	110	19.1	1.5
General Managers and Top Executives	300	7.7	4.3
Other Managers and Administrators	80	NA	1.2
Professional and Technical Workers	230	NA	3.3
Accountants and Auditors	40	26.2	0.6
Purchasing Agents and Buyers, except Farm Products	20	16.8	0.3
Other Management Support Workers	40	NA	0.6
Other Engineers	50	NA	0.7
Other Engineering Technicians and Technologists	40	NA	0.5
Other Professional and Technical Workers	40	NA	0.6
Sales Workers	230	NA	3.3
Sales Supervisors	40	26.9	0.5
Sales Representatives, Nonscientific, except Retail	120	21.0	1.7
Other Sales and Related Workers	70	NA	1.0
Clerical Workers	710	NA	10.3
Clerical and Administrative Supervisors	30	32.2	0.4
Secretaries	130	15.0	1.9
Order Clerks	50	23.6	0.7
Bookkeeping, Accounting, and Auditing Clerks	90	20.7	1.3
General Office Clerks	90	18.1	1.2
Production, Planning, and Expediting Clerks	30	18.2	0.5
Stock Clerks, Stockroom or Warehouse	20	20.4	0.4
Traffic, Shipping, and Receiving Clerks	140	19.3	2.0
Other Clerical Workers	130	NA	1.8
Service Workers	40	NA	0.6
Janitors and Cleaners	40	22.3	0.6
Production and Maintenance Workers	5,170	NA	74.8
Mechanic and Repairer Supervisors	40	17.1	0.5

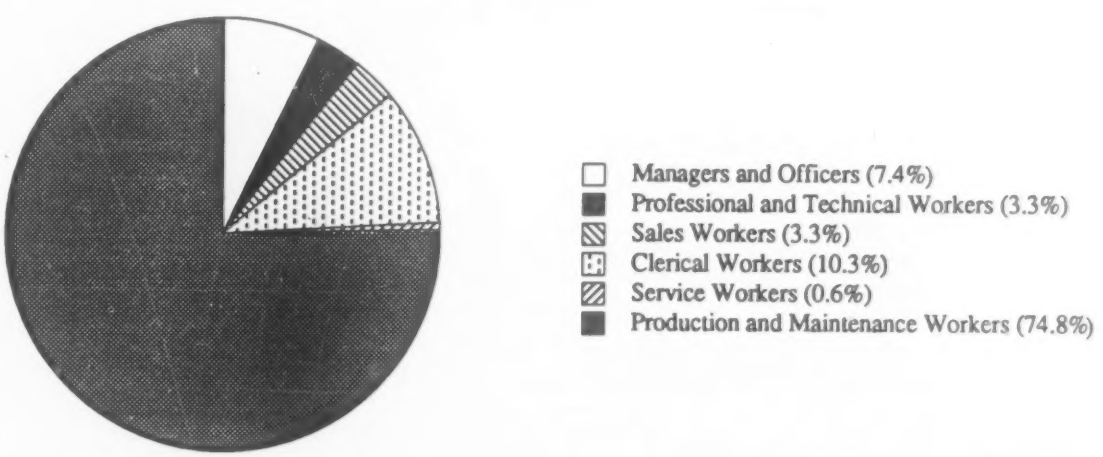
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Production Supervisors	140	15.6	2.0
Other Supervisors	50	NA	0.8
Precision Inspectors, Testers, and Graders	60	22.7	0.9
Machinery Maintenance Mechanics	100	17.9	1.5
Maintenance Repairers, General Utility	80	20.8	1.1
Other Mechanics, Installers, and Repairers	20	NA	0.3
Other Construction and Extractive Workers	70	NA	1.1
Machinists	40	32.7	0.6
Cabinetmakers and Bench Carpenters	180	34.1	2.6
Other Precision Woodworkers	60	NA	0.9
Other Precision Workers	480	NA	7.0
Other Metal and Plastic Machine Setters and Set-up Operators	50	NA	0.8
Other Metal and Plastic Machine Operators and Tenders	240	NA	3.5
Other Printing Related Setters and Set-up Operators	50	NA	0.7
Other Machine Setters and Set-up Operators	280	NA	4.1
Other Machine Operators and Tenders	790	NA	11.5
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	1,070	17.2	15.5
Other Hand Workers	630	NA	9.0
Machine Feeders and Offbearers	170	24.0	2.4
Material Movers, Hand	160	34.4	2.3
Hand Packers and Packagers	200	23.8	2.9
Other Helpers, Laborers, and Material Movers, Hand	220	NA	3.1

[1/]Details may not add to total due to rounding or data suppression.

TABLE 17
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Assemblers and Fabricators, except Machine, Electrical, Electronic, and Precision	1,070	15.5
General Managers and Top Executives	300	4.3
Hand Packers and Packagers	200	2.9
Cabinetmakers and Bench Carpenters	180	2.6
Machine Feeders and Offbears	170	2.4

FIGURE 17
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY



SIC 806

HOSPITALS

June 1989

Establishments in this major group are primarily engaged in providing diagnostic services, extensive medical treatment including surgical services, and other hospital services, as well as continuous nursing services.

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Total Employment	99,200	NA	100.0
Managers and Officers	4,090	NA	4.1
Financial Managers	190	0.9	0.2
Personnel and Labor Relations Managers	230	0.7	0.2
Purchasing Managers	120	0.8	0.1
Marketing, Advertising, and Public Relations Managers	120	1.2	0.1
Administrative Services Managers	130	2.8	0.1
Engineering, Mathematical, and Natural Science Managers	90	1.1	0.1
Medical and Health Service Managers	1,240	1.5	1.3
Food Service and Lodging Managers	200	1.1	0.2
General Managers and Top Executives	1,040	1.0	1.0
Other Managers and Administrators	730	NA	0.7
Professional and Technical Workers	51,650	NA	52.1
Accountants and Auditors	200	0.5	0.2
Budget Analysts	70	0.0	0.1
Other Financial Specialists	60	NA	0.1
Purchasing Agents and Buyers, except Farm Products	110	0.9	0.1
Personnel and Public Relations Specialists	200	0.5	0.2
Other Management Support Workers	350	NA	0.4
Other Engineers	130	NA	0.1
Electrical and Electronic Engineering Technicians and Technologists	50	0.0	0.1
Other Engineering Technicians and Technologists	100	NA	0.1
Chemical Technicians and Technologists, except Health	90	0.0	0.1
Other Science Technicians and Technologists	80	NA	0.1
Systems Analysts, EDP	190	0.5	0.2
Computer Programmers	120	1.1	0.1
Computer Programmer Aides	120	1.2	0.1
Psychologists	230	2.2	0.2
Social Workers, Medical and Psychiatric	1,270	2.4	1.3
Social Workers, except Medical and Psychiatric	200	2.9	0.2
Human Services Workers	260	7.6	0.3
Clergy	130	0.8	0.1

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Nursing Instructors	290	0.8	0.3
Teachers and Instructors, Vocational Education and Training	220	0.9	0.2
Other Teachers and Instructors	330	NA	0.3
Physicians and Surgeons	1,920	0.7	1.9
Other Health Practitioners	50	NA	0.1
Respiratory Therapists	1,060	0.7	1.1
Occupational Therapists	220	3.9	0.2
Physical Therapists	540	2.1	0.5
Corrective and Manual Arts Therapists	60	0.0	0.1
Speech Pathologists and Audiologists	160	3.8	0.2
Recreational Therapists	310	1.5	0.3
Other Therapists	230	NA	0.2
Registered Nurses	22,490	0.2	22.7
License Practical Nurses	6,430	0.6	6.5
Emergency Medical Technicians	400	3.4	0.4
Physician Assistants	230	1.4	0.2
Pharmacists	670	0.6	0.7
Dieticians and Nutritionists	280	0.7	0.3
Dietetic Technicians	320	1.6	0.3
Medical and Clinical Laboratory Technicians	1,740	0.7	1.8
Medical and Clinical Laboratory Technologists	1,850	0.6	1.9
Medical Records Technicians	740	1.0	0.8
Nuclear Medicine Technologists	220	0.9	0.2
Radiologic Technologists	1,170	1.2	1.2
Radiologic Technicians	890	1.2	0.9
Electroencephalogram Technicians and Technologists	100	1.0	0.1
Cardiology Technologists	230	1.4	0.2
Electrocardiograph Technicians and Technologists	230	1.4	0.2
Surgical Technicians and Technologists	1,020	0.7	1.0
Psychiatric Technicians	1,090	3.5	1.1
Other Health Professionals, Paraprofessional and Technicians	1,640	NA	1.7
Public Relations Specialists and Publicity Writers	80	1.9	0.1
Other Professional and Technical Workers	480	NA	0.5
Sales Workers	400	NA	0.4
Cashiers	400	1.5	0.4
Clerical Workers	15,430	NA	15.6
Clerical Supervisors	730	0.8	0.7
Adjustment Clerks	200	2.0	0.2
Medical Secretaries	1,410	0.7	1.4
Other Secretaries	1,300	NA	1.3
Stenographers	80	1.7	0.1
Receptionists and Information Clerks	740	1.3	0.8
Typist	920	1.4	0.9
Typist, Word Processing	210	1.4	0.2
Personnel Clerks	180	1.1	0.2

Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
File Clerks	350	1.0	0.3
Order Clerks	50	0.0	0.1
Procurement Clerks	90	2.3	0.1
Statistical Clerks	630	1.3	0.6
Interviewing Clerks, except Personnel and Social Welfare	1,180	1.2	1.2
Bookkeeping, Accounting, and Auditing Clerks	640	0.9	0.6
Payroll and Timekeeping Clerks	170	1.2	0.2
Billing, Cost, and Rate Clerks	750	1.3	0.8
General Office Clerks	2,480	0.7	2.5
Billing, Posting, and Calculating Machine Operators	100	1.0	0.1
Computer Operators	240	1.5	0.2
Data Entry Operators	330	1.1	0.3
Other Office Machine Operators	290	NA	0.3
Switchboard Operators	630	1.0	0.6
Dispatchers, Police, Fire, and Ambulance	70	2.2	0.1
Stock Clerks, Stockroom or Warehouse	770	0.7	0.8
Traffic, Shipping, and Receiving Clerks	150	1.1	0.2
Other Material Recording and Related Workers	130	NA	0.1
Other Clerical and Administrative Workers	610	NA	0.6
Service Workers	23,960	NA	24.2
Housekeepers	660	2.4	0.7
Other Service Supervisors	420	NA	0.4
Guards and Watch Guards	490	1.1	0.5
Food Servers, Outside	1,260	1.0	1.3
Dining Room and Cafeteria Attendants	430	1.2	0.4
Counter Attendants, Lunchroom, Coffee Shop, or Cafeteria	190	2.6	0.2
Bakers, Bread, and Pastry	70	2.7	0.1
Cooks, Institutional or Cafeteria	650	1.3	0.7
Cooks, Short Order	120	2.6	0.1
Food Preparation Workers	1,450	1.2	1.5
Other Food Service Workers	350	NA	0.4
Medical Assistants	480	1.6	0.5
Nurse Aides, Orderlies, and Attendants	8,230	0.6	8.3
Home Health Aides	500	9.9	0.5
Psychiatric Aides	2,130	1.5	2.1
Physical Therapy Assistants and Aides	380	1.9	0.4
Occupational Therapy Assistants and Aides	90	2.8	0.1
Ambulance Drivers and Attendants, except Emergency Medical Technicians	60	4.6	0.1
Pharmacy Assistants	860	0.6	0.9
Other Health Service Workers	1,170	NA	1.2
Maids and Housekeeping Cleaners	2,530	0.6	2.5
Janitors and Cleaners	1,070	0.8	1.1
Other Cleaning and Building Service Workers	70	NA	0.1

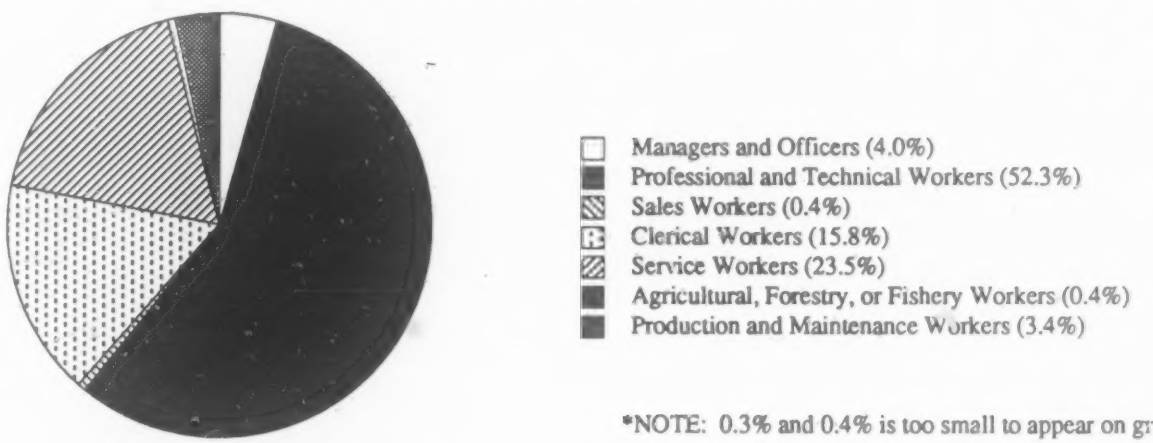
Occupation	Estimated Employment[1/]	Relative Error %	Percent Distribution[1/]
Social Welfare Service Aides	80	8.7	0.1
Child Care Workers	60	5.2	0.1
Other Service Workers	160	NA	0.2
Agricultural, Forestry, or Fishery Workers	340	NA	0.3
Gardeners and Groundskeepers, except Farm Workers	320	0.9	0.3
Other Agricultural, Forestry, or Fishery Workers	20	NA	0.1
Production and Maintenance Workers	3,330	NA	3.4
Mechanic and Repairer Supervisors	190	0.9	0.2
Other Supervisors	80	NA	0.1
Machinery Maintenance Mechanics	120	0.8	0.1
Maintenance Repairers, General Utility	500	1.6	0.5
Heating, Air Conditioning, and Refrigeration Mechanics	150	0.7	0.1
Electromedical Equipment Repairers	110	0.0	0.1
Other Mechanics, Installers, and Repairers	130	NA	0.1
Carpenters	130	1.1	0.1
Electricians	130	0.8	0.1
Painters and Paperhangers	140	0.7	0.1
Plumbers and Pipefitters	70	0.0	0.1
Laundry and Dry Cleaning Machine Operators and Tenders, except Pressing	480	1.1	0.5
Pressing Machine Operators and Tenders	100	0.0	0.1
Boiler Operators and Tenders, Low Pressure	60	0.0	0.1
Hand Workers	70	0.0	0.1
Truck Drivers, Light - inc. Delivery and Route Workers	70	0.0	0.1
Other Motor Vehicle Operators	70	NA	0.1
Parking Lot Attendants	70	0.0	0.1
Other Transportation and Material Moving Equipment Operators	50	NA	0.1
Other Helpers, Laborers, and Material Movers, Hand	610	NA	0.6

[1/] Details may not add to total due to rounding or data suppression.

TABLE 18
THE FIVE LARGEST SPECIFIC OCCUPATIONS

Occupation	Estimated Employment	Percent of Total Employment
Registered Nurses	22,490	22.7
Nurse Aides, Orderlies, and Attendants	8,230	8.3
Licensed Practical Nurses	6,340	6.5
Maids and Housekeeping Cleaners	2,530	2.5
General Office Clerks	2,480	2.5

FIGURE 18
PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORY


Managers and Officers (4.0%)
Professional and Technical Workers (52.3%)
Sales Workers (0.4%)
Clerical Workers (15.8%)
Service Workers (23.5%)
Agricultural, Forestry, or Fishery Workers (0.4%)
Production and Maintenance Workers (3.4%)

*NOTE: 0.3% and 0.4% is too small to appear on graph.

Methodology

A questionnaire was mailed to sampled manufacturing establishments and hospitals in order to obtain occupational staffing data. The total occupational employment for an industry was then estimated from the responding establishments.

Sample

The sample was drawn using procedures outlined in the OES Survey Operations Manual. Establishments were divided into different size classes by number of employees. All establishments with more than 250 employees were sampled. Establishments in each smaller size class were sampled in proportion to the employment in the size class; however, no establishment with fewer than four employees was sampled. Employment in these establishments was accounted for in the next larger size class. Each unit sampled was assigned a weight according to the ratio of units sampled in that size class. For example, when all units in a size class were sampled, the weight was one. When the units were sampled at a ratio of one out of four, the sampled unit was given a weight of four. The weighted establishment then represented itself and three other establishments.

Collection

Data collection began in June 1989 and ended in March 1990. Two follow-up mailings and telephone calls were made to those establishments whose responses were deemed vital for statistical purposes, to those who had difficulty completing the questionnaire, or to those where clarification of the response was necessary.

Estimates

Data from the questionnaires were keyed and loaded to tape. The tape was processed using the OES Survey Processing and Management Systems (SPAM) programs to sort and screen the data. The estimating programs sorted the data into size-class cells. The weighted employment of each occupation in each cell was then estimated individually and summed across all cells in order to produce the final occupational employment estimate for each industry.

Error

Two types of errors, sampling and non-sampling, can affect the results of a survey. Sampling error is the difference between the estimates developed from data collected from a sample and the data collected from the universe from which the sample was drawn. Sampling error is measurable and is expressed as relative error. The relative error shown in the publication is such that the chances are two out of three that the results of comparable universal data collection would not differ by more than the percentage shown. Non-sampling error can arise from faulty questionnaire design, inability to collect necessary data, inaccuracy of data collected, and ineffective processing techniques. Non-sampling error cannot be measured.

Publication

After the data file was processed through the OES estimates programs, a computer printout was received which contained the estimated employment for each occupation, the relative error of the occupational estimate, the percent distribution of the occupational employment, the number of employees reported in each occupation, and the number of establishments which reported each occupation. Industries were surveyed at the 3-digit SIC level, however, published data are at the 2-digit level of detail. One exception is Hospitals, which is confined to SIC 806 and published accordingly. Both public and private hospitals are included in the survey and the resulting data appears near the end of this publication.

Occupational data were not published for industries when the industry employment was less than 1,000. The estimated employment for occupations was rounded to the nearest ten. The estimated employment was put in a residual category when the estimated employment for an occupation was less than 15 or less than 0.05 percent of the total group employment, when the relative error was more than 35.0 percent, or when an occupation was not reported by at least four establishments. Although they are not published here, the suppressed industry and occupational data will be included in the industry/occupational matrix.

Relative error is not applicable (NA) for residual categories, occupational group totals, and total employment because it is not additive. The percent distribution was computed on the unrounded employment estimates, therefore, some occupations with the same published estimated employment may not bear the same percent distribution.

NOTE: Occasionally the sum of the occupations will not equal the total employment of the occupational category due to rounding.

Employment Security Commission of North Carolina
Labor Market Information Division
Post Office Box 25903
Raleigh, North Carolina 28611

Postage and Fees Paid
U.S. Department of Labor
Lab 449

CONGRESSIONAL INFORMATION SERVICE
ATTN: SRI
4520 EAST WEST HWY
BETHESDA MD 20814-0000

A5500510

Published By:
Employment Security Commission
of North Carolina
Labor Market Information Division (LMI)
Post Office Box 25903
Raleigh, North Carolina 28611

Ann Q. Duncan	Chairman
Dr. Gregory B. Sampson	Director, LMI
Leonard Polk	Project Supervisor
Sam Brewer	Labor Market Analyst
Yvonne Ennis	Labor Market Analyst
Myrdis O. Tart	Editor

More information may be obtained by contacting the Employment Statistics Unit at (919) 733-2936 or by writing the Labor Market Information Division at the above address.

November 1990

800 copies of this public document were printed at a cost of $720.00 or $.90 per copy.

Check your mailing label . . .

. . . is there an error
. . . have you changed you address
. . . does this publication meet your needs
. . . have personnel changed

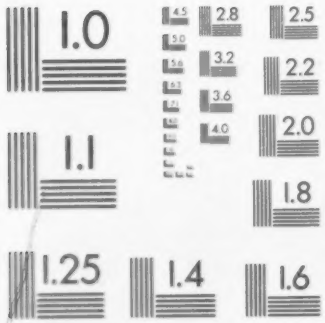
Please let us know!

Send a copy of your mailing label with corrections or marked "discontinue" to:

Employment Security Commission
of North Carolina
Labor Market Information Division
Post Office Box 25903
Raleigh, North Carolina 27611

or call (919) 733-2936.

MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)



PHOTOGRAPHIC SCIENCES CORPORATION
770 BASKET ROAD
P.O. BOX 338
WEBSTER, NEW YORK 14580
(716) 265-1600

24:1

Compilation © 1991 Congressional Information Service
All rights reserved